

LITERATURE OF MANUFACTURERS

Catalogues, bulletins and other materials recently issued. Manufacturers are requested to send copies of new trade literature to Electric Refrigeration News.

Porcelain Cabinet Parts

Literature just released from the Ingram-Richardson Mfg. Co., Beaver Falls, Pa., tells about the manufacture of "Porceliron" and about its application in the many industries where porcelain finishes are used. The booklet, "White Magic," mentions specifically the application of porcelain to refrigerator linings, and portrays pictorially some of the operations conducted in the Ingram plant in applying the finish.

Durez Breaker Strips

The molding compound made by General Plastics, Inc., of North Tonawanda, N. Y., for a wide variety of uses in the electrical, radio, novelty, packaging, and other fields, is described in a recent pamphlet of the company entitled, "New Materials for Old." Durez is used in the refrigeration industry for breaker strips for cabinets.

The compound is a synthetic condensation product belonging to that phenolic group of plastic molding materials which are shaped to final form under heat and pressure, according to the Durez manufacturer. General Plastics does no molding itself, supplying only the material for other manufacturers to fabricate to suit their own uses.

Sitka Spruce

Facts about Sitka spruce, which the C. D. Johnson Lumber Co. of Portland, Ore., supplies to refrigerator cabinet manufacturers, are presented in a booklet, "Sitka Spruce," published by that company. It describes the growth of the spruce industry since the war, and tells of the use of this lumber in homes, airplanes, musical instruments, containers, furniture, and in industrial uses.

Master Geared-Head Motors

Speed acceleration or reduction by means of gears built into the head of the motor is accomplished by the motors described in a new bulletin of the Master Electric Co. of Dayton, Ohio. The motors are furnished in the parallel shaft type with the driving shaft extending out of the motor in the same direction as the armature, and in the right angle shaft type with the driving shaft at right angles to the motor shaft.

Tagliabue General Catalog

The C. J. Tagliabue Mfg. Co. of Brooklyn, N. Y., has just issued a new general catalog showing its complete line of instruments for indicating, recording, and controlling temperature and pressure in industrial processes. The book includes more than 100 pages of pictures and descriptions of controllers, recorders, dials, thermometers, hydrometers, oil testing instruments, and moisture meters. It also provides technical information of interest to the chemist, laboratory worker, and manufacturing executives.

Minneapolis-Honeywell Controls

"Automatic Controls for Electric Refrigeration" are treated in a new booklet of that name, recently published by the Minneapolis-Honeywell Regulator Co. of Minneapolis.

Described in the bulletin are the Air-switch which is an air-operated device for controlling air temperatures in florist cabinets, market coolers, etc.; the Bulb-switch for controlling temperatures in installations requiring a remote thermostat; the Pressure-switch, which starts and stops refrigerating machines in order to maintain the pressure within definite limits; and the M-H electric condenser for use in circuits where flashes of electric arcs might otherwise be damaging.

Carbon Tet

Carbon Tetrachloride is the subject of a new book just offered to the trade by the Roessler & Hasselacher Chemical Co., Niagara Falls, N. Y. Specifications, properties, and commercial applications of this non-flammable solvent are presented, along with brief chapters on toxicity, stability, test methods, and flash point data.

Wagner Motors

Bulletin 167 of the Wagner Electric Corp., St. Louis, describes its line of small motors such as are used in electric refrigerators. The bulletin is divided into eight parts telling about single-phase, polyphase, and direct current motors in fractional horsepower ratings. Constructional features of the Wagner design are profusely illustrated and explained.

Cadalyte Process

Grasselli Chemical Co. of Cleveland has just published a 31-page booklet on the cadalyte process. As a protection against rust for iron and steel, cadmium is applied by an electrolytic process called cadalyting. The book describes the development of the plating process, and tells in detail how the finish is applied.

General Electric's New Erie Warehouse



View from another G. E. factory building of the new warehouse at Erie, Pa., for cabinets and compressor units. In the foreground appears the electric conveyor system.

Two Mechanical Systems for Trucks Made By Safety Refrigeration, Inc.

(Concluded from Page 1, Column 4) electrically operated fuel pump is furnished.

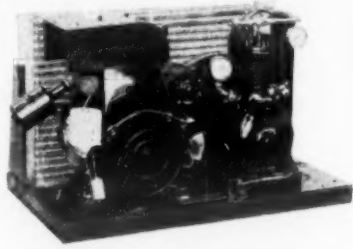
Current for starting the engine is supplied from the truck storage battery. When the system is installed in a refrigerated trailer, an auxiliary storage battery is necessary, and is kept charged by a chain-driven generator attached to the engine.

Evaporator coils are mounted on the side walls of the truck's cooling compartment, and are cooled by direct expansion of the methyl chloride.

The larger of the two systems, model BB, has a refrigerating capacity of 800 lbs. of ice melting effect per 24 hours, while the smaller machine, model AB, is rated at 400 lbs. Both are two-cylinder, air-cooled machines, provided with the splash system of lubrication. V-belts are used.

Model AB compressor has a 2-in. bore and a 1½-in. stroke. It operates at a speed of 457 r.p.m. Model BB has a stroke of 2¼ in. and a 3-in. bore. It is driven at 365 r.p.m.

The gas engines are single cylinder, air-cooled, four cycle, internal combustion machines with the splash system



Type BB Safety Refrigeration unit.

of lubrication, and governors, spark coil ignition, automatic choke, and separate fans for cooling the engine cylinders.

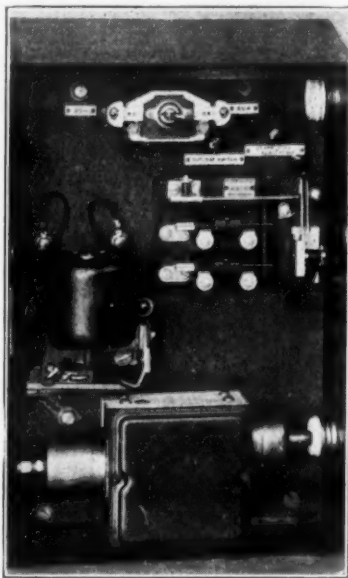
Engines have a 2¼-in. bore, with a 3¼-in. stroke. On model AB they are operated at a speed of 1,400 r.p.m., while on BB they are operated somewhat faster, 1,600 r.p.m. The engine rating at 1,800 r.p.m. is 3 brake horsepower.

Mr. Wigney recommended that the gasoline engine be overhauled at least annually and given the same attention as the main truck engine gets. This includes refilling three pints of oil to the engine crank case every 50 hours of operation, and oiling of the clutch on the starting motor.

The starting motor is provided with graphite bearings which eliminate the necessity of oiling, he says.

"The condenser is built of ¾-in. copper tubing, with ¾-in. square copper fins, two rows deep, to dissipate the heat of the compressor and heat removed from the food compartment. The

condenser for the small machine has 51 sq. ft. of cooling surface; for model BB, 79 sq. ft. Both fans serve to circulate



Refrigerated truck control made by Cole Electric Products Co.

late cooling air through the condenser, the one mounted on the engine shaft, and the one on the compressor shaft," he says.

Under ordinary conditions, gasoline consumption on the larger models averages around ½-gal. per hour, and under less severe conditions is reduced to approximately ¼-gal. per hour, he claims.

Assuming that the systems are to be installed in well-built bodies with five inches of insulation, Mr. Wigney estimates that the small size machine will cool a compartment with 143 cu. ft. to 5° F.

On the same assumption, a 246 cu. ft. chamber could be cooled to 28° F. with the small (AB) size, or to 0° F. with the large (BB) machine, he figures, and a truck with 437 cu. ft. of insulated storage space could be kept at 40° F. with the small machine, or at 10° F. with the large machine.

A food compartment as large as 714 cu. ft. of capacity could be held at 50° F. with the small machine, or at 20° F. with the large system, according to estimates of the Safety Refrigeration engineers.

Weights of the condensing units are 322 lbs. for model AB, 400 lbs. for type BB, and 444 lbs. for BBG which has a

generator attachment for charging the storage battery on a trailer installation. Model AB is 20 in. wide, 30 in. long, and 23 in. high, while BB and BBG are 23x36x24 in.

SMITH CO. DEVELOPS NEW CHEMICAL INSULATION

(Concluded from Page 1, Column 3)

to 16 times its original volume on heating, at the same time changing color from black or dark brown to a light, silvery shade. This expansion or exfoliation is part of the processing conducted here.

Vermiculite for the Smith manufacturing operation is being mined from deposits in Colorado, where, Mr. Smith says, a very large amount exists.

Mr. Smith claims the material in the dry form has a thermal conductivity of .33 per inch of thickness, with a density of 8 to 15 lbs. per cu. ft. depending upon the process. "It is fireproof, vermin proof, and insoluble in ordinary acids," he maintains.

LOCAL CITIZENS ARE INVITED TO GIBSON SERVICE SCHOOL

GREENVILLE, Mich.—Believing that the more local citizens who understand electric refrigeration, the more sales prospects there will be the Gibson Electric Refrigerator Corp. has opened up its service school to townspeople.

Attendance at the school has steadily increased since the opening of the classes two weeks ago, according to Elmer Born, chief instructor.

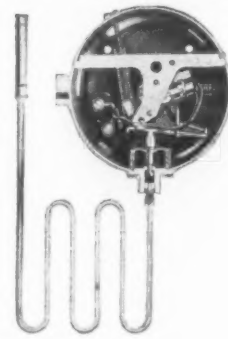
Accurate, dependable, low-cost refrigeration control MERCOLD NO. 858

The No. 858 Model LL-1 is especially designed for milk coolers, frozen food cases, soda fountains, ice cream cabinets and general commercial work. Easily adjusted for any cut-in or cut-out point. It is low in price.

This Mercoid is one of a complete line of controls to operate by temperature or pressure. Instruments are also available of the Dual Type, combining control of low side pressure (or by temperature) and high pressure cut-out. There is a Mercoid for every refrigeration need.

Mercoids carry full line current—110 or 220 volts—without corrosion of contacts. No relays or transformers.

A postcard will bring you details of these instruments, together with description of the No. 682 Arco Solenoid Valve for water-cooled units.



MERCOLD CONTROL No. 858 MODEL LL-1

Furnished in ranges minus 10° to plus 25° and plus 10° to plus 50° with a differential as close as 2¼° or as wide as 12°. Changing the cut-in point at high does not change the cut-out point at low

DETROIT LUBRICATOR COMPANY
DETROIT, U. S. A.

5842 Trumbull Avenue

Division of
AMERICAN RADIATOR & STANDARD SANITARY CORPORATION

CABINET WAREHOUSE AT ERIE COMPLETED

(Concluded from Page 1, Column 1)

ing the cabinets," he explained. As the cabinets leave the end of the assembly line they are first conveyed through an electrically operated turntable which is actuated by a tripper switch. The turntable moves from one line to another, enabling the conveyance of a number of cabinets of the same size at one period. In the warehouse are traveling electric cranes with automatic grapples which perform the final operation of stacking the cabinets in the allotted storage area.

Another electric conveyor operates on the loading platform of the warehouse which is adjacent to the main line of the New York Central Railroad. Here 10 to 20 cars may be loaded at one time. Spur tracks also are located to permit loading and unloading at the end of the building. In the event of a rush of shipments the cabinets can be switched from the assembly lines in the plant directly from the turntable to other car loading platforms without going to the warehouse.

Compressor units as well as cabinets will be stored in the new warehouse. Units made now in Schenectady for western distributors are shipped to Erie for distribution. The concentration of units and cabinets facilitates the shipment of consolidated carloads to all western distributors and dealers. Trackage facilities at the Erie works are such that 50 to 90 cars can be handled daily.

The General Electric Co. selected Erie for concentration of refrigeration manufacturing after a survey in a number of cities, including Cleveland, St. Louis, Toledo, Detroit, Pittsburgh, and Youngstown, according to Mr. Sweeney. Available building sites, proximity to sources of raw material, cost of labor, adequate housing, cost of living, and other considerations were weighed before the final decision was reached.

The Erie works of the company comprises approximately 1,400 acres of ground so situated that it offers large facilities for expansion of refrigeration and other Erie works activities, he concluded.

COLE TELLS USES OF COPPER IN NEW FIELDS

ST. LOUIS—Refrigeration and air conditioning were prominently mentioned in an illustrated address given on Dec. 15 before the St. Louis Electrical Board of Trade by Carter S. Cole, engineer with the Copper & Brass Research Association, New York City. Cole's subject was, "Uses of Copper in New Fields."

Mr. Cole stressed the progress of the refrigeration industry, stating that "in 10 years the market has expanded 5,000 per cent and the expansion is not yet finished."

Immediately following was a slide showing three copper humidifiers in the plant of the Freihofer Baking Co., Philadelphia, an installation of the Maryland Air Conditioning Corp. of Baltimore, Md.

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The business newspaper of the refrigeration industry

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CARL D. TAYLOR RESIGNS POST AT WESTINGHOUSE

Graves Named Manager Of Refrigeration Division

MANSFIELD, Ohio, Jan. 5.—Carl D. Taylor, manager of the refrigeration division of the Westinghouse Electric and Mfg. Co., has announced his resignation from that company, effective Jan. 1.

Mr. Taylor has been appointed vice president and general manager of the Elin Co. of Philadelphia, distributor of Westinghouse electric refrigerators. He will take charge of his new territory immediately.

C. B. Graves, former vice president and general manager of Standard Home Utilities Co., Chicago, has been appointed as Taylor's successor.

J. F. O'Donnell will be associated with Graves as assistant manager of the division. O'Donnell has been with Westinghouse for several years.

Taylor, who has been with the Westinghouse organization for 17 years, was stationed in Mansfield for the past three years. Previous to that time, he was industrial manager of the central division at Pittsburgh.

With the Elin Co., he will have charge of the territory in eastern Pennsylvania, southern New Jersey, and Delaware.

FRIGIDAIRE FILM USED TO TRAIN 7,000 MEN

DAYTON, Ohio.—Through the use of slide films, Frigidaire Corp. has just completed training more than 7,000 commercial and household salesmen in all parts of the country. The corporation reports that within a month's time, practically its entire selling organization was schooled in winter selling methods.

An outline of instructions, together with the necessary slide films and new selling equipment was sent into the field from the factory. The plan proved economical, according to Leonard Warden of the sales planning division.

Thrift is the theme of the Frigidaire cold weather plan. Two slide films were used during the courses, the first, "Right Now," devoted to reasons why refrigeration is needed in winter, and the second, "Turning Cold Prospect into Warm User," explained how best results could be obtained with winter selling aids.

GHERARDI REELECTED BY STANDARDS ASSOCIATION

NEW YORK CITY.—Bancroft Gherardi, vice president of the American Telephone & Telegraph Co., was re-elected president of the American Standards Association for 1932, at its annual meeting, here, recently.

Other officers also re-elected are: Cloyd M. Chapman, consulting engineer for United Engineers & Constructors, Inc., New York, vice president and chairman of the A. S. A. standards council; and John C. Parker, Brooklyn Edison Co., vice chairman of the standards council.

Twenty-seven new national standards, affecting almost every important industry in the United States, have been completed by national committees of technical experts working under the association's auspices since Jan. 1.

The advancement of standardization work in the electrical industry has been promoted during the past year, Mr. Gherardi said, by the organization of the electrical standards council to correlate the standardization activities of the entire industry under A. S. A. auspices.

BRAZIL FRIGIDAIRE OUTLET OBSERVES JUBILEE

DAYTON, Ohio.—Frigidaire Corp.'s Fifteenth Anniversary Jubilee, celebrated throughout the United States last summer, was observed in November in Sao Paulo, Brazil, according to a report from the distributor.

Pirie, Villares & Co., distributor, decorated the showroom in a modernistic manner, with "15 Annos Frigidaire" in relief on two inner-lighted glass columns at the back of the display.

Canada Kelvinator To Build, Sell Electrochefs

LONDON, Ont.—Kelvinator of Canada, Ltd., announced recently a contract whereby it will engage in the manufacture and sale in the Dominion of Canada of Electrochef electric ranges, according to a statement by F. S. McNeal, general manager.

Under the terms of the contract completed with Electromaster, Inc., of Detroit, Kelvinator of Canada, Ltd., is given the sole right to manufacture and distribute this line of electric ranges throughout the Dominion.

The product will be manufactured at London, in the Kelvinator plant, and will be sold through the present Kelvinator dealer organization and other direct dealers to be appointed.

Sample models of Electrochef are on display at Kelvinator showrooms throughout the Dominion.

KELVINATOR DISTRICT HEADS STUDY PLANS

DETROIT, Jan. 4.—Regional and district managers of the Kelvinator Corp. arrived today for a several days' discussion of 1932 selling plans, and for final arrangements for the 1932 distributor-dealer conventions to be held in the field in late January and through February.

The 1932 Kelvinator line and plans will be presented and explained by J. S. Sayre, sales manager; Vance Woodcock, sales promotion manager, and A. M. Taylor, advertising manager. Special emphasis will be laid on promotion of commercial sales, according to Kelvinator factory officials.

A movie of the Kelvinator factory, to be used at the conventions throughout the field, will be given a showing before this group of executives.

GIBSON OFFICIAL SPEAKS AT DISTRIBUTOR'S MEETING

KANSAS CITY.—F. A. Delano, general sales manager of the Gibson Electric Refrigerator Corp., gave the closing address Dec. 30 at the annual sales meeting held by the Townley Metal Hardware Co., recently appointed Gibson distributor for Oklahoma, Kansas, and part of Missouri.

The Gibson Corp. was represented by Mr. Delano, Frank S. Gibson, Jr., vice president; R. G. Seldomridge, Middle West district manager, and Elmer Bonn, head of the Gibson service school.

Mr. Delano's talk covered the Gibson program for 1932. At other sessions of the meeting, Mr. Seldomridge gave instruction to the Townley sales organization, and Mr. Bonn talked to salesmen and service men on the Gibson method of handling refrigeration servicing.

Crashed



A. C. MAYER

Gus Mayer Killed; Plane Wing Breaks

CLEVELAND.—A. C. Mayer, merchandising manager of the General Electric refrigeration department, was killed instantly New Year's Eve, when an airplane in which he was flying from this city to his home in Louisville, Ky., crashed to the ground in a dense fog bank near Springfield, Ohio.

Planning to spend the week-end with his 18-year-old daughter, Dorothy, at the home of his parents, Mr. Mayer left Cleveland Thursday evening in a commercial plane with four other passengers. Only one survived the crash.

According to the pilot, who lived for a few hours following the accident, fog and clouds caused him to seek higher altitudes. While climbing, a wing broke off the plane. The plane dug a hole about three feet deep in the farm field into which it plunged. Almost two hours elapsed before anyone arrived at the scene.

Mr. Mayer, who was 39 years of age, joined the refrigeration department's sales organization as merchandising manager in August, 1927, after having

(Concluded on Page 2, Column 5)

The Early Bird

ST. LOUIS.—The first Frigidaire sale of 1932 in the St. Louis sales district was turned in by Frank Rice of the Delhome Light Co., when he obtained an order to equip the St. Louis Y. M. C. A. with a water cooling system.

The order included three compressors and two 200-gal. tanks.

Sparks-Withington Shows 3 New Models to Dealers

By John T. Schaefer

JACKSON, Mich., Jan. 4.—Three models of the Sparton electric refrigerator were presented by Captain William Sparks, president of Sparks-Withington Co. to approximately 100 Sparton radio distributors who assembled in the Masonic Temple here today for their annual convention.

Tomorrow several hundred Sparton dealers will arrive to hear

WESTINGHOUSE HOLDS DEALER CONFERENCES

MANSFIELD, Ohio.—Complete merchandising and advertising program for the refrigeration department of the Westinghouse Electric and Mfg. Co. during 1932 will be definitely announced by representatives of the sales promotion division of that company in distributor-dealer meetings throughout the United States.

Nine men left the Mansfield plant of the Westinghouse company Jan. 1 to take leading parts in these meetings, at which the company's set-up will be explained.

Thirty-five key cities will be visited by the sales promotion men, who will be assisted in each place by a charter member of the "Quota Busters" club, an honorary organization of salesmen recently formed here.

Members of the sales promotion division who will carry the Westinghouse message into the field are: Marshall Adams, George Constance, C. C. Wilcott, R. L. Sanner, George Moister, William Kennon, Robert Beatty, Thomas Hackett, and J. M. Stedman.

The members of the "Quota Busters" club, who won places in the recent sales contest, will tell the sales methods they employed in winning contest prizes.

Included in the itinerary of the men will be Columbus, Cincinnati, Nashville,

(Concluded on Page 2, Column 5)

SUHL HEADS SALES STAFF OF INTERNATIONAL NICKEL

NEW YORK.—R. L. Suhl, for the past three years assistant to the late Frederick S. Jordan, succeeds him as manager of the nickel sales department of The International Nickel Co., Inc., according to an announcement made by the company recently.

Ransom Cooper, Jr., Walter C. Kerrigan and Charles McKnight have been appointed as Mr. Suhl's assistants.

All four men are veterans of the

(Concluded on Page 2, Column 4)

the same message and make plans for the addition of electric refrigeration to their radio line.

This morning's program was devoted to introduction and explanation of the 1932 Sparton radios, and examination of the new visionola which combines a radio, phonograph, and a talking movie machine in one instrument for the home.

On the morning's program were Captain Sparks; Russell Planck, radio engineer; Harry Sparks, vice president, who analyzed radio trade conditions; E. T. Hutchinson, radio sales manager; and David Rosenblum, vice president of the Business Training Corp., New York.

Captain Sparks opened the afternoon's program with the announcement of the Sparton refrigerators. He was followed by Fred W. Whitlock, who explained their construction and operation.

Harry Sparks and Earl R. Brower were next, outlining briefly the Sparton merchandising plan on refrigeration.

Representing the United States Advertising Agency of Toledo, which is to handle the Sparton refrigeration account, W. H. Leininger told of market studies among 30,000 housewives which indicated that convenience, food preservation, pride of ownership, product reliability, and economy are the im-

(Concluded on Page 2, Column 3)

YARD MADE DISTRICT HEAD BY FRIGIDAIRE

ATLANTA, Ga.—Dudley F. Yard, former manager of the Atlantic branch of the Frigidaire Corp., but for the past year located in New Orleans, has returned to Atlanta as district sales manager for North Carolina, South Carolina, and Georgia. In the year's time, Mr. Yard raised New Orleans from the lowest to second highest city in sales for the Southeast.

Announcement of Mr. Yard's promotion was made at a three-day conference of district sales managers and field representatives of the Frigidaire Corp. lasting from Dec. 28 to 31, at the Ansley Hotel.

Speakers included J. E. Reeves, regional manager; V. C. Smith, sales planning manager for the Southeastern section; Russell Prugh, in charge of factory sales activity.

Approximately 25 representatives from Tennessee, North and South Carolina, Georgia, Florida, Alabama, Mississippi, and Louisiana attended.

REDUCED GAS RATES FOR BROOKLYN CO. APPROVED

ALBANY, N. Y.—A schedule of reduced rates for the Brooklyn Borough Gas Co. have been approved by the Public Service Commission of New York, meaning a saving of more than \$150,000 a year to customers of the company who live in the Coney Island section of Brooklyn.

The rates, which took effect Jan. 1, permit customers to use 500 feet of gas for the initial charge of \$1. Gas used in excess of this amount will be charged for at the rate of 10.5 cents per 100 cu. ft.

Under the old rates, customers received only 200 cu. ft. of gas for the minimum monthly bill of \$1.

9,897 UNITS SOLD ON 75-DAY COOPERATIVE DRIVE

BERKELEY, Calif.—A 75-day electric refrigerator campaign in which 9,897 sales, totaling more than \$2,250,000, were reported, was carried on by the Pacific Gas & Electric Co. as a part of its 1931 campaign.

Refrigerators were exhibited in the showrooms of the utility company, which cooperates with Electric Refrigeration Bureau.

Forecasts for 1932 by Chief Executives

Shortly before the end of 1931 the following formidable list of questions was propounded to chief executives of the electric refrigeration industry.

In spite of the short space of time which has elapsed since the questions were asked, a number of interesting replies have been received in time for publication in this issue.

Also appended are a few first-of-the-year statements from industry executives.

Electric Refrigeration News
559 Macabees Building
Detroit, Mich.

Dear Sir:

As has been its custom in the past, ELECTRIC REFRIGERATION NEWS will present in its first issue of the year (Jan. 6, 1932) expressions of opinion from chief executives of the industry on future movements and possibilities in the refrigeration business.

For a guide to your statement we list the following questions:

1. Will more refrigerators be sold in 1932 than were in 1931? What will the rate of increase be for the next five years?

2. What trends in equipment do you

foresee? Larger models? More beauty and novelty in design? More specialized equipment?

3. What are the possibilities of the commercial market for refrigeration equipment in comparison with the household market?

4. How will manufacturers seek to enlarge or improve their distributing organizations in 1932? More intensive distribution? More extensive distribution?

5. What are the chief problems in connection with making established merchants good retailers of electric refrigerators? Specifically, department stores, hardware stores, furniture stores, music and radio stores, electrical contractors, plumbing houses?

6. What direction will the industry take in terms of time payments?

7. Is the merchandising of electric refrigerators by means of coin-meter devices a passing fad, or will the use of such devices increase?

8. What is the future of selling by means of free trial in the home?

9. Will guarantees be lengthened, shortened, or remain as they are today?

10. What progress do you foresee for the following refrigeration developments in 1932:

- (a) Air conditioning?
 - (b) Water cooling?
 - (c) Refrigerated trucks?
 - (d) Quick-frozen foods?
 - (e) Vending machines?
11. Will the industry continue its ef-

orts to build up the valleys in the sales curve until the refrigeration business will no longer be definitely seasonal?

12. Can electric refrigeration dealers and distributors profitably merchandise companion lines? What line do you think best suited? Electric ranges? Oil burners? Radios? Washing machines?

What has ELECTRIC REFRIGERATION NEWS done to fulfill its mission of service to the electric refrigeration industry in 1931? How can it improve that service in 1932?

We shall appreciate it greatly if you can endeavor to have a statement of your ideas in our hands by Jan. 1, 1932.

GEORGE F. TAUBENCK,
Editor.

Ruthenburg

Copeland Products, Inc.
Mount Clemens, Mich.

Editor:

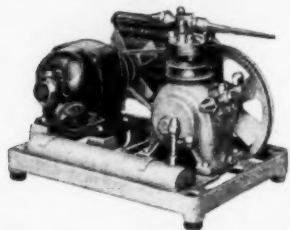
The inquiries contained in your letter of Dec. 22nd, are extremely difficult to answer, and in attempting to reply to your letter, we are distinctly conscious of the fact that our point of view, at best, represents only a guess which has about a 50-50 chance of being accurate.

In view of the meager degree to which the market for refrigeration has been

(Concluded on Page 12, Column 1)

KULAIR

Condensing Units
Small Domestic to Large
Commercial Capacities



WRITE FOR FULL INFORMATION TO
KULAIR CORPORATION
PHILADELPHIA, PA.

1929 N. Y. SALES OF REFRIGERATORS GIVEN

WASHINGTON, D. C.—Thirty-two New York state stores selling mechanical refrigerators exclusively gained a total sales volume of \$9,764,819 in 1929, according to a summary for the State of New York recently made by the Bureau of the Census.

The information which the Bureau of the Census has gathered in the Census of Distribution is now being made available in state reports, which in turn are summarized according to merchandise groups, number of stores, net sales, per cent of total, and per capita sales. The New York summary is one of the first to be completed.

Household appliance stores handling electrical goods numbered 627, with net sales of \$14,744,781, the report shows.

(Concluded from Page 1, Column 5)

portant factors in the home owner's selection of a refrigerator.

Because convenience was given first by 77 per cent of the women interviewed, he said, that factor was given important consideration in the design of the machine and is being featured in advertising.

Advertising will begin in a February issue of the *Saturday Evening Post*, he said, augmented by billboard, direct mail, and newspaper advertising.

Harley Wall, retail sales specialist for Sparks-Withington, spoke next, explaining the use of the 12-chapter retail sales plan book he has prepared for dealers.

Concluding the afternoon's session was C. H. Paxton, vice president of the Commercial Investment Trust Corp., which will handle installment finance on Sparton refrigerators.

Mr. Paxton discussed the organization of his firm, explaining that it has approximately 150 branch offices from which sales can be financed.

Two factors are given chief consideration in investigating a financed refrigeration sale, he said, ability to pay and inclination to pay.

After a dinner in the Hayes Hotel ballroom the distributors gathered at Captain Sparks' home for a demonstration of the new radios and refrigerators.

A similar program is planned for the large delegation of dealers which arrives in the morning.

In addition, however, Doctor G. W. Allison of the N. E. L. A. Refrigeration Bureau will give an analysis of the refrigeration trade, George Broch of the Business Training Corp. will discuss radio sales, and the R-K-O vaudeville team, Olsen and Johnson, will romp for the amusement of the conventioners.

Sparks-Withington Introduces Models to Distributors

Another part of the program includes a visit to the Michigan State Prison located here, and inspection trips to the various Sparton factories.

Specifications

Covered by a three-year factory guarantee, the Sparton refrigerators are termed models L-42, L-57, and L-75, with gross cubical capacities of 4.22, 5.66, and 7.49 cu. ft. respectively.

Model L-42 has 7.25 sq. ft. of shelf area, and makes 49 ice cubes. Model L-57 has 10.19 sq. ft. of shelf area, and offers 77 ice cubes; while L-75 has 14.7 sq. ft. of shelf area, and manufactures 91 ice cubes.

Height, width, and depth of model L-42 are 50 by 24 by 29 in., of L-57 are 53 by 29 by 30, and of model L-75 are 54 by 35 by 31 in.

Sulphur dioxide is the refrigerant used in the twin cylinder reciprocating type of compressor connected directly to the 1-5 hp. motor. American Radiator expansion valves and Ranco controls are standard. The condensing unit is removable through the top.

From 3 to 4½ in. of Balsa Wood insulation are used in the sides, bottoms, and doors of the cabinets, while 2 in. of the same insulant are used in the top.

Cabinet liners are of porcelain, with exterior finishes in lacquer. Hinges are of the semi-concealed type, all hardware is of chromium plated brass.

Sliding shelves have been incorporated into the Sparton refrigerators, and are fabricated of heavy flat ribbon.

Other features are buffet tops and broom high legs 11 in. long. The Sparton medallion appears on the door of each model.

SUHL HEADS SALES STAFF OF INTERNATIONAL NICKEL

(Concluded from Page 1, Column 4)

nickel industry. Mr. Suhl joined the original International Nickel Co. on May 1, 1903, as laboratory assistant in the Bayonne, N. J., refinery. He was made superintendent of electrolytic refining in 1908, and during the World War had, as superintendent of the oxide division, entire charge of the roasting and leaching of the ores.

In 1920 he joined the headquarters staff of the company in New York as a development engineer, and continued as a member of the development and research department until 1928, when he became assistant sales manager of the nickel department.

Mr. Cooper was vice president and sales manager of the American Mond Nickel Co. before joining International Nickel in 1929; Mr. Kerrigan had previously been general manager of the United States Nickel Co., at New Brunswick, N. J., before making his present connection two years ago, and Mr. McKnight has been, since 1922, in charge of alloy steel development for International Nickel.

GUS MAYER KILLED; PLANE WING BREAKS

(Concluded from Page 1, Column 3)

been general sales manager for the Unit Construction Co. in Chicago, Ill.

Before that time he was a sales executive for the Victor Talking Machine Co. in Camden, N. J.

He had personally directed many successful sales campaigns for the General Electric refrigeration department, and his death occurred just after he had completed plans for the department's spring sales campaign.

Mr. Mayer was the originator of many sales plans, chief among which was the 25 Plan now being followed out by virtually every General Electric refrigerator salesman in the country.

He also originated the series of Spring sales meetings among distributors, a plan which has since been adopted by several automobile sales organizations.

The death of Mr. Mayer was a heavy blow to officials of the General Electric refrigeration department. P. B. Zimmerman, manager of the department, declared: "It is the worst shock our business has ever suffered."

Mr. Mayer was a widower, his wife having died a few years after the birth of his only child, Dorothy.

Besides the daughter, Mr. Mayer is survived by his parents, Mr. and Mrs. A. C. Mayer, Sr., two sisters and a brother, George J. Mayer, assistant commonwealth attorney of Kentucky. All reside in Louisville.

Funeral services were held Monday, Jan. 4. A delegation from the General Electric refrigeration department was composed of M. F. Mahony, W. E. Landmesser, Jean DeJen, A. L. Scaife, F. M. Corliss, Harold Hulett, Glenn C. Wasson, Mr. and Mrs. Paul Dow, W. M. Timmerman, William A. Crawford, William Henze, and Miss Grace Poslar.

WESTINGHOUSE CONDUCTS SERIES OF CONFERENCES

(Concluded from Page 1, Column 4)

Louisville, Pittsburgh, Cleveland, Toledo, Detroit, Baltimore, Boston, Chicago, Dallas, Houston, Jacksonville, Kansas City, Mo., Los Angeles, Monroe, La., Newark, New York City, Oklahoma City, Okla., Omaha, Philadelphia, Richmond, San Francisco, Seattle, St. Louis, St. Paul, and Tampa.

Methods of marketing, sales promotion, advertising, and merchandising will be discussed, with the entire year's program in mind. At this time, the various distributing concerns will announce their policies to the dealers for the coming sales season.

Distributors will call in all of their dealers of the one-day session which will be closed with a moving picture showing the activities of the "Quota Busters" club in Mansfield.

NEW MAJESTIC DEALER NAMED IN LOUISVILLE

LOUISVILLE, Ky.—The Central Furniture Co., on Market St., has become a dealer for the Cooper-Louisville Co., 430 E. Broadway, distributor for Majestic refrigerators.

Something New TO TALK ABOUT

SOMETHING NEW to sell

THE NEW LEONARD ELECTRIC

Prospective buyers can see at a glance the extra values in the new Leonard Electric. The result—interesting, dramatic demonstrations and easy sales!

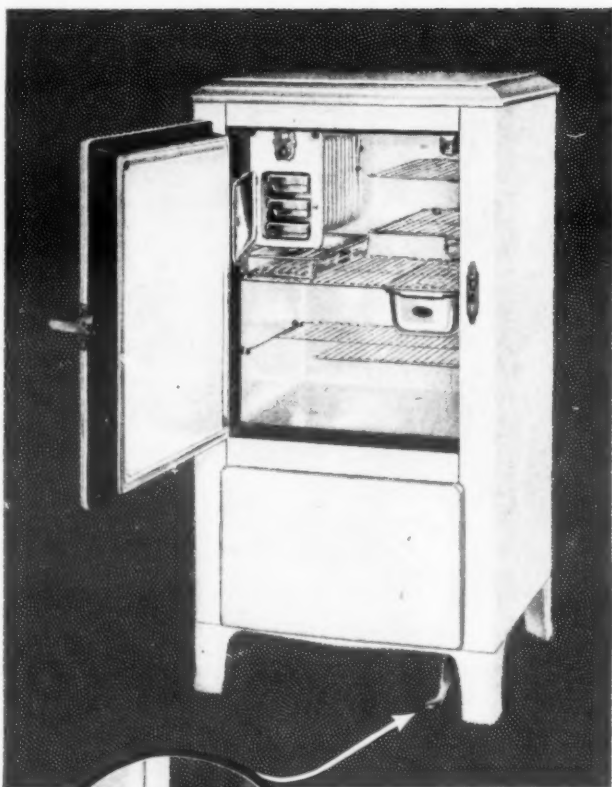
Many Leonards are bought on the strength of the LEN-A-DOR alone. A touch of the toe, and the door swings open! Yet this is but one of Leonard's new and exclusive convenience features; and many of the others are found only in refrigerators costing much more.

Because of solid construction and high quality throughout—because of low price—because of visible value—the new Leonard is ideally suited to dealer requirements. It is "package merchandise"—a complete unit which requires no installation except plugging in at an electrical outlet.

The Leonard Electric (in 8 new models—2 all-porcelain) is the finest product of 51 years of household refrigeration experience. If you are interested in the unusual profit opportunity it presents, wire or write without delay, as open territories are being rapidly closed.

LEONARD REFRIGERATOR COMPANY
14256 Plymouth Road, Detroit, Michigan

WITH THE LEN-A-DOR



A TOUCH OF THE TOE AND THE DOOR SWINGS OPEN

LEONARD

ELECTRIC

REFRIGERATOR



(430)

Evidence

...that Sells Refrigerators

HERE is a real sales help. It enables you to prove whether the temperature in your prospect's old-fashioned ice-box is consistently above 50° F.—too high for the proper and safe preservation of food.

Simply place BRISTOL'S handy little Model 144 Temperature Recorder on a shelf in the housewife's ice-box. Take it out at the end of 72 hours, and show the

chart record of the temperatures during the period. It is the most convincing kind of evidence. It sells refrigerators.

Get the facts about Model 144 without delay. Send for Leaflet No. 381.

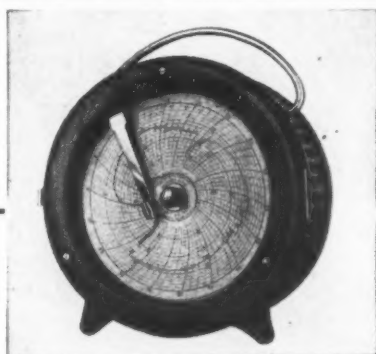
THE BRISTOL COMPANY
WATERBURY CONNECTICUT

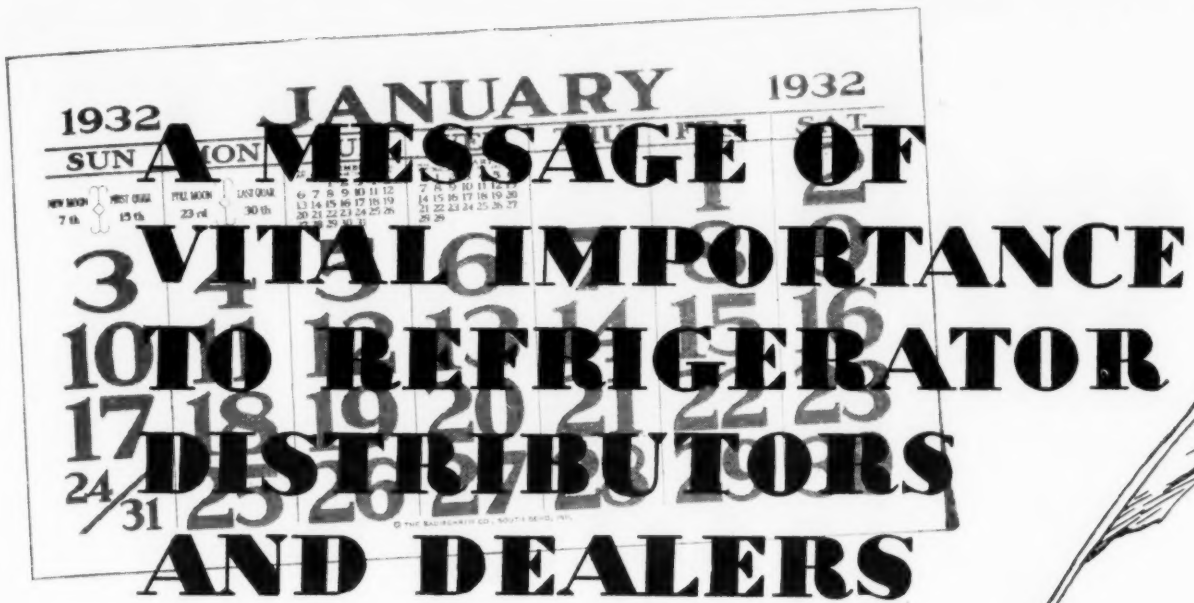
Branch Offices: Akron, Birmingham, Boston, Chicago, Denver, Detroit, Los Angeles, New York, Philadelphia, Pittsburgh, St. Louis, San Francisco

BRISTOL'S

TIME AND TEMPERATURE RECORDERS

for Refrigerators





SELF-ANALYSIS

Now is the time for individuals and business concerns alike to analyze themselves thoroughly—to review the past year . . . take from it all that has proved valuable and look to the new year with a broad vision.

The Gibson Corporation enters 1932 with absolute confidence and keen enthusiasm. Confidence, based on the achievements and steady progress gained in over 50 years of successful refrigerator manufacturing. Enthusiasm, heightened by the eager public reception accorded the Gibson **MONOUNIT** Electric.

We sincerely believe that Gibson distributor and dealer franchises offer you greater opportunity for profit. Greater because of the unquestioned stability of the company and proved merit of its product. And the Gibson electric will be nationally advertised in 1932 by an extensive, powerful campaign.

Territories are still available. You are invited to visit the Gibson plants at any time and obtain first hand information or write and we will give you complete details and facts. Investigate this opportunity for quicker turnover—greater volume and profits.

With best wishes for a successful 1932—

Cordially yours,

Charles J. Gibson
President

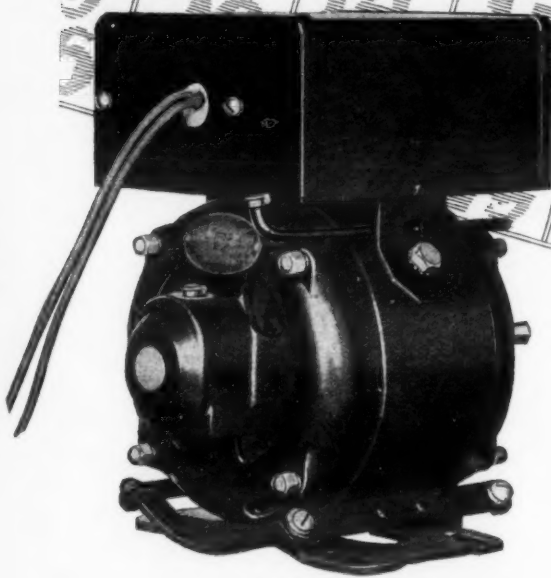
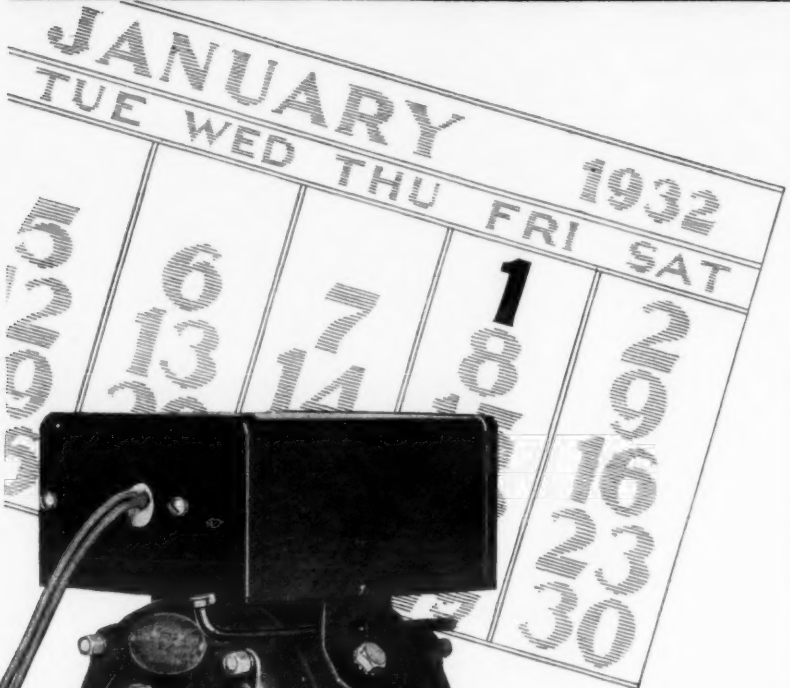


Distributors and Dealers
are Invited to Visit
the Gibson Display at
10th ANNUAL
CHICAGO RADIO-ELECTRICAL
SHOW
Coliseum, Jan. 18-24 Inc.

GIBSON ELECTRIC REFRIGERATOR CORPORATION
GREENVILLE MICHIGAN

GIBSON Electric

G-E TYPE KC



RESOLVED:
"I will insist on the
'care-free' motor in
1932 . . . the Type KC"

THE Type KC capacitor-motor is the most "care-free" . . . the simplest . . . drive designed and offered for modern refrigerators.

It has the absolute minimum of wearing parts. From capacitor to base, everything about it spells simplicity, long life, and obvious dependability.

Make that resolution now; insist on a "care-free" motor . . . the Type KC. Motor specialists in your nearest G-E office will be glad to furnish complete information.

JOIN THE "G-E CIRCLE"—SUNDAYS AT 5:30 P.M. E.S.T.
 ON N. B. C. NETWORK OF 54 STATIONS—WEEK-DAYS (EXCEPT SATURDAY) AT NOON

GENERAL  ELECTRIC

210-160

WEEKLY PRICE INDEX SOUGHT BY COUNCIL

WASHINGTON, D. C.—A weekly index of wholesale and retail prices throughout the country should be published by the government to enable industry to see the "direction and intensity of economic activity," is the opinion of a committee of the Social Science Research Council in a series of resolutions made public Dec. 26 by O. C. Stine of the Department of Agriculture.

To supplement this index, the government should also compile index numbers of living costs for the major economic groups "to measure broad changes in national consumption," the resolutions state.

The reason for the recommendation of the committee was said to be that "the events of the last two years have brought home to economists and to business men, to consumers and to the general public, the inadequacy of our existing knowledge of price movements in the United States."

No nation-wide study of budgets has been made since 1919, the committee continued, and as a result it has been impossible to trace accurately the price changes of recent years.

Distributors

in important centers will be interested in the new lines of

RICE

household and commercial electric refrigeration, built to last and priced to sell—backed by 25 years experience in manufacturing electric refrigeration systems. Write to

Rice Electric Refrigeration, Inc.
 36-48 Flatbush Ave., Extension
 Brooklyn New York

Division Head



JAMES F. HALL
 Heads new Capital Paper Co. electric appliance division, Indianapolis.

37 ATLANTA SALESMEN QUALIFY FOR B.T.U. CLUB

ATLANTA, Ga.—Thirty-seven dealers and salesmen of the Frigidaire Sales Corp., here, have made the grade for the 1931 B.T.U. Quota Club.

Those who have already passed their quota mark in the Southeastern region are: Jack Hedges, Baton Rouge; C. J. Nolan, Baton Rouge; George Randolph, Alexandria; A. C. Toups, O. J. Legendre, T. Casey, E. C. Abadie, J. C. Fisher, D. T. Healey, Walter E. Hobson, Jr., G. Kehoe, and R. Stiebel, all of New Orleans.

George T. Barr, Leesburg; H. C. Hightower, Jacksonville; C. B. Millikan, Leesburg; J. H. Keele, Sanford; J. T. Robertson, New Smyrna; W. A. Cranford, Greenville, S. C.; D. E. Boozer, Augusta; S. M. Hoss, Rome; R. M. Austin, Winchester; G. C. Cole and E. S. Grever, both of Bristol; A. I. Jordan, Columbia.

W. H. Ridley, Murfreesboro; G. W. Trask, Nashville; John E. Danford, Knoxville; C. E. Kirby and W. O. Tuttle, both of Miami; R. E. Turner, Lakeland; H. M. Lipscomb, Lakeland; R. S. Lisenba, New Orleans; J. H. Blackford, Montgomery; A. F. Trimble, Springfield; D. D. Major, Hattiesburg; E. N. Butler, Charlotte, and G. H. Harrison, Columbia.

NEW DEALERS NAMED BY MAJESTIC OUTLET

CINCINNATI, Ohio—The Schuster Electric Co., Majestic electric refrigerator distributor in the Greater Cincinnati area, announces the appointment of the following dealers:

Bond Hill Radio and Electric Co., 4931 Paddock Road, Bond Hill; Crown Furniture Co., 1739 Elm St., Cincinnati; Dixie Music Shop, 2732 Woodburn Ave.; Electric Sales and Service, 4312 Main Ave., Norwood; Neal Fessenden, 2222 Williams Ave., Norwood.

W. C. Ficke, 6721 Belkenton Ave., Silverton; Frank's Music Shop, 1207 Vine St. and Gosling Radio Shop, 3750 Warsaw Ave., Price Hill; I. L. Greenwald, Inc., 4739 Main Ave., Norwood, and 711 Madison Ave., Covington, Ky.; I. L. Greenwald, Ninth and Race Sts., Cincinnati; Gosney Tire Co., 709 Scott St., Covington, Ky.

Griffiths Radio Shop, 4566 Main Ave., Norwood; Grandin Hardware Co., 2039 Madison Road, Cincinnati; George Hagen, 513 Findlay St., Cincinnati; Louis Hellman Furniture Co., 819 Central Ave., Cincinnati; C. W. Ifred, 3951 Hazel Ave., Norwood; Kentucky Sales and Service Co., Tenth and Saratoga Sts., Newport, Ky.

Leo G. Kealker, 235 Elm St., Ludlow, Ky.; Kraemer Electric Co., 7305 Vine St., Carthage; Lehr's Radio Shop, Spring Grove and Harrison Aves., Cincinnati; Leuger's Furniture Co., 5916 Vine St., Elmwood Place; Leuger's Furniture Co., 413 Benson St., Reading; Levine Furniture Co., 1142 Main St., Cincinnati.

Liberty Furniture Co., 223 Pike St., Covington, Ky.; Link's Music and Radio Shop, 1711 Vine St., Cincinnati; Fred Lockwood, R. R. 11, Mt. Healthy, Groesbeck, Ohio; Lyric Piano Co., 632 Race St., Cincinnati; Joseph McCurdy, 1179 Harrison Ave., Cincinnati; Majestic Appliance Co., 5754 Harrison Ave., Cincinnati.

Milnor Music Co., 40 West Sixth St., Cincinnati; Monarch Radio Co., 125 East Twelfth St., Cincinnati; Louis A. Noelke, 955 East McMillan St., Cincinnati; Northside Electric Co., 4231 Spring Grove Ave., Cincinnati; Park Radio Co., 3672 Erie Ave., Cincinnati; Paul Electric Co., 115 Hartwell Ave., Hartwell, Ohio; Price Hill Radio Co., 3637 Warsaw Ave., Price Hill, Cincinnati.

Pushin Radio Co., 5905 Madison Road, Cincinnati; Raber Hardware Co., 4029 Eastern Ave., Cincinnati; Shaw and Stechaw, 904 Central Ave., Cincinnati; T. Sydney Smith, Fairfield and Washington Aves., Bellevue, Ky.; Sprague Bros., 13 East McMillan St., Cincinnati; O. S. Tennabaum Co., 313 West Fifth St., Cincinnati.

Tolle Electric Shop, 3810 Harrison Ave., Cheviot, Ohio; Tusculum Radio Shop, 308 Tusculum Ave., Cincinnati; United Radio, Inc., 1103 Vine St., Cincinnati; John Weigel Co., 718 McMillan St., Cincinnati; Williams-Markland Co., 643 Main St., Cincinnati; The Wurlitzer Co., 117 East Fourth St., Cincinnati.

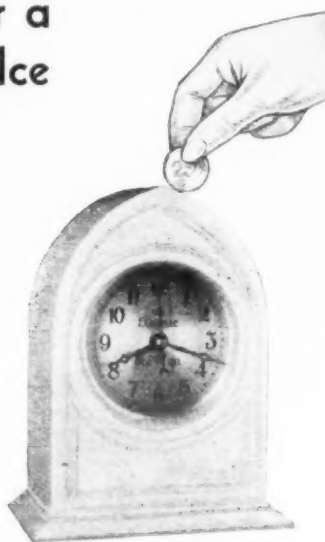
ARMCO MOVES CINCINNATI OFFICE TO MIDDLETOWN

MIDDLETOWN, Ohio—The Cincinnati district office of the American Rolling Mill Co. will be moved to the home offices of the company here, on or about Jan. 16, company officials announce.

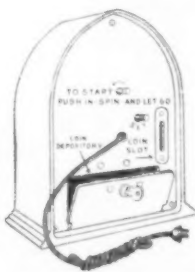
Resident salesmen will remain in Cincinnati, and direct telephone communication between Cincinnati and Middletown will be maintained.

The decision was made to give quicker service, according to Hugh W. Wright, supervisor of personnel publications, as most of the company's clients in the Cincinnati district are located in Central Ohio and Indiana and can be served more advantageously from Middletown.

... "A Quarter a Day Keeps the Ice Man Away"



Helps make the sale and collect the cash



Your customer drops in the slot 25¢ a day. Your collector carries the key, collects the payments. Clock is in no way connected with the control of the refrigerator. It is a daily reminder of the necessary deposit.

When your refrigerator salesman needs a final clincher to close the sale, here it is—this beautiful Electric Klock Koin Collector. Offered as a gift, distributors and dealers are finding that it breaks down resistance and, at the same time, makes payments easy for your customer.


A Bank—not a Meter

There isn't anything about this attractive clock that indicates the refrigerator is being bought on the 25¢-a-day plan. It is a savings bank built into one of the Brach Electric Clocks, widely known for their accuracy, beauty, and long life.

Distributors and dealers are invited to write or wire for low prices in quantities. You may have any trademark or slogan you wish on the face of the clock. Start now to use this modern way of closing sales and collecting payments.

Brach Time Company

55-63 Dickerson Street - - - Newark, N. J.



Balsam-Wool
Sealed Slabs
NATIONALLY
ACCEPTED
Completely satisfactory
Refrigerator Insulation

WOOD CONVERSION COMPANY
 Industrial Sales Offices:
 CHICAGO, 360 N. MICHIGAN AVE.
 New York, 3107 Chanin Bldg.
 Detroit, 515 Stephenson Bldg.
 San Francisco, 149 California St.

COMMISSION ISSUES CONTRACTING ETHICS

WASHINGTON, D. C.—New trade practice rules condemning and describing a number of unfair methods of competition have been accepted by the electrical contracting industry, the Federal Trade Commission announces.

The rules were revised finally by the commission, which directs that in quoting them, the form in which they appear in the official statement be followed.

The rules in that form are:

Group I: Rule 1.—The Commission substituted and approved the following rule for resolution 1 as adopted by the industry:

"Willfully inducing or attempting to induce the breach of existing contracts between competitors and their customers by any false or deceptive means whatsoever, or interfering with or obstructing the performance of any such contractual duties or services by any such means, with the purpose and effect of unduly hampering, injuring, or embarrassing competitors in their business, is an unfair trade practice."

Rule 2.—The Commission substituted and approved the following rule for resolution 2 as adopted by the industry:

"Willfully enticing away the employees of competitors with the purpose and effect of unduly hampering, injuring, or embarrassing competitors in their businesses is an unfair trade practice."

Rule 3.—The Commission substituted and approved the following rule for resolution 3 as adopted by the industry:

"The defamation of competitors by falsely imputing to them dishonorable conduct, inability to perform contracts, questionable credit standing, or by other false representations, or the false disparagement of the grade or quality of their goods, with the tendency and capacity to mislead or deceive purchasers or prospective purchasers and the tendency to injuriously affect the business of such competitors, is an unfair trade practice."

Rule 4.—The Commission substituted and approved the following rule for resolution 4 as adopted by the industry:

"The selling of goods below cost with the intent and with the effect of injuring a competitor and where the effect may be to substantially lessen competition or tend to create a monopoly or to unreasonably restrain trade, is an unfair trade practice."

Rule 5.—The Commission substituted and approved the following rule for resolution 5 as adopted by the industry:

"The practice of shipping or delivering products which do not conform to the samples submitted or representations made prior to securing the orders, without the consent of the purchasers to such substitutions, and with the effect of deceiving or misleading purchasers and the tendency to injuriously affect the business of competitors, is an unfair trade practice."

Rule 6.—The Commission substituted and approved the following rule for resolution 6 as adopted by the industry:

"The practice of using materials or methods of installation not in accordance with the applicable governmental laws, rules and regulations obtaining in the territory affected, with the tendency to injuriously affect the business of competitors, is an unfair trade practice."

Rule 7.—The Commission approved resolution 7 as adopted by the industry, reading:

"The secret payment of allowance of rebates, refunds, commissions, or unearned discounts, whether in the form of money or otherwise, or secretly extending to certain purchasers special services or privileges, not extended to all purchasers under like terms and conditions, with the intent and with the effect of injuring a competitor and where the effect may be to substantially lessen competition or tend to create a monopoly or to unreasonably restrain trade, is an unfair trade practice."

Rule 8.—The Commission substituted and approved the following rule for resolution "J" as adopted by the industry:

"For any person, firm, or corporation knowingly to aid or abet another in the use of unfair trade practices is an unfair trade practice."

Group II: Rule A.—The Commission accepted resolution "A" as adopted by the industry, reading:

"An electrical installation in territories where no governmental laws, rules or regulations prevail the National Electrical Code, approved by the American Standards Association, provides the proper regulations."

Rule B.—The Commission accepted resolution "B" as adopted by the industry, reading:

"The inducing or attempting to induce

an architect, owner or builder to reveal to any bidder on a competitive job information relative to bids already received which information would give the favored bidder an advantage in the preparation of his own bid is condemned by the industry."

Rule C.—The Commission accepted resolution "C" as adopted by the industry, reading:

"To induce or attempt to induce an architect, owner or builder to reveal to a bidder the amounts and conditions of any bid received on a competitive job, with a view of giving the favored concern an opportunity to meet or cut below the lowest bid, whether the favored concern was one of the original bidders or not is condemned by the industry."

Rule D.—The Commission accepted Resolution "D" as adopted by the industry, reading:

"To mislead or deceive any bidder as to the amounts and conditions of other bids or with any other false information for the purpose of inducing him to cut his own is condemned by the industry."

Rule E.—The Commission accepted Resolution "E" as adopted by the industry, reading:

"Surprisingly obtaining information relative to competitors' bids in the preparation of one's own bid is condemned by the industry."

Rule F.—The Commission accepted Resolution "F" as adopted by the industry, reading:

"The industry approves of the 'one-bid' policy and condemns fake or fictitious bids made for the purpose of deceiving competitors and securing undue advantage. If plans and specifications are changed and new bids called for after the original bids have been submitted and opened, the same fairness should obtain as with the original bid."

Rule G.—The Commission accepted Resolution "G" as adopted by the industry, reading:

"It is a frequent practice for electrical contractors to submit bids to general contractors who in turn use the lowest acceptable price from the several trades in making up their bids on a general contract. Many general contractors after securing the general contract then reopen the bidding for the same operation, commonly known as 'shopping,' which practice involves deception and misrepresentation, lowering the standard and quality of electrical installation and building construction. Such practice is condemned by the industry."

Rule H.—The Commission accepted Resolution "H" as adopted by the industry, reading:

"The industry favors the adoption of the following rules for calling for bids:

"(a) In all cases where competitive bids are requested, no one should be invited to bid to whom the contract would not be willingly awarded in the case his bid is the most acceptable in itself."

"(b) Where accurate estimates are desired for information only, a reasonable fee or fees should be paid to the parties preparing them."

"(c) Plans and specifications should be sufficiently complete to enable competent bidders to estimate accurately the amount of material and labor required."

"(d) Invited bidders, provided they actually submit bids, should not be required to pay for the use of plans and specifications."

"(e) A reasonable time should be allowed for preparation of estimates."

Rule I.—The Commission accepted Resolution "I" as adopted by the industry, reading:

"Where a bidder requests an interpretation of some feature of the specifications from the buyer or his representative before submitting his bid, which would materially affect the cost of the work, the same information should be submitted to all other bidders by the buyer or his representative."

Rule J.—The Commission submitted and accepted the following rule for Resolution "K" as adopted by the industry, reading:

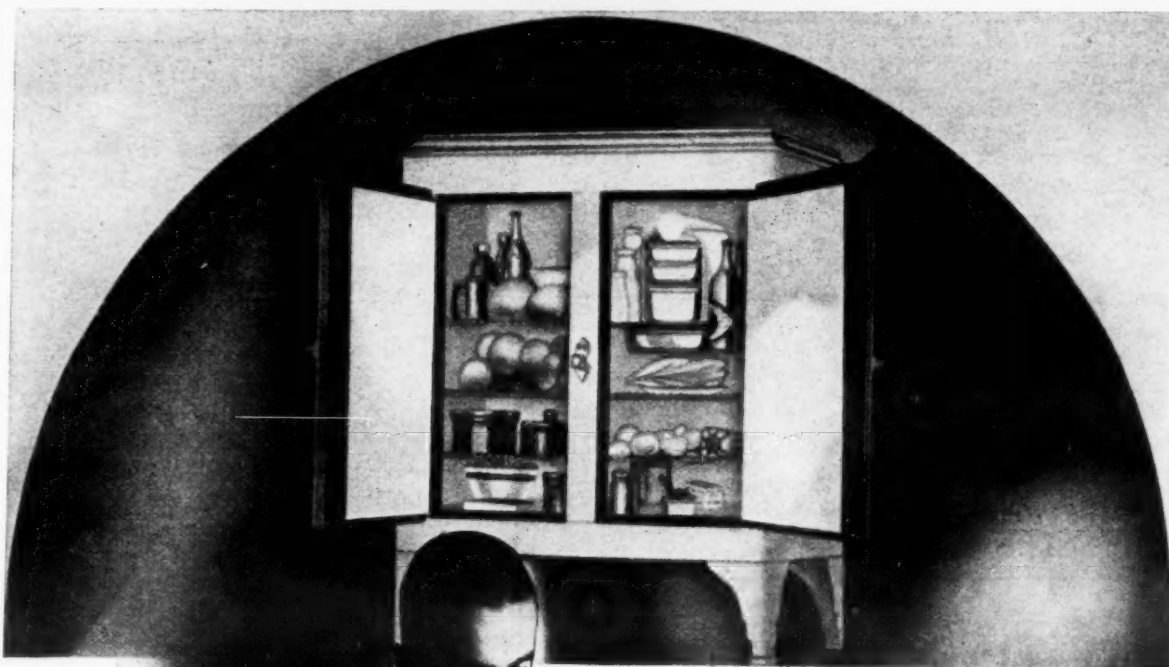
"(a) The industry approves the practice of each individual member of the industry independently published and circulating to the purchasing trade its own price lists."

"(b) The industry approves the practice of making the terms of sale a part of all published price schedules."

Rule K.—The Commission substituted and accepted the following for Resolution "M" as adopted by the industry, reading:

"The industry hereby records its approval of the definition of a qualified wholesale distributor to be one whose principal business is selling to the retail distributor."

Rule L.—The Commission accepted Resolution "N" as adopted by the industry.



KEROTEST Means Craftsmanship in Refrigeration Valves

Kerotest Forged Valves are made for the modern refrigerator engineer who demands the utmost in precision and craftsmanship—the result of many years experience in successfully meeting the exacting requirements of electrical refrigeration.

They incorporate all the most advanced features of design now accepted as standard throughout the industry. The two Kerotest Valves illustrated below are notable examples.

As you may note, the Kerotest Type 416—3 Way Manifold Valve with Packing is designed to meet the requirements of those who prefer a "packed" valve with a metal to metal back seat and handwheel. The outside type packing nut insures great compression of the packing material and the metal to metal back seating bushing absolutely insures a high pressure gas or liquid tight joint when the stem is in the full open position. It is only 3 1/2 inches high. The stem is of extremely tough, non-corrosive bronze, and the packing material is impervious to heat and the usual refrigerating gases or liquids.

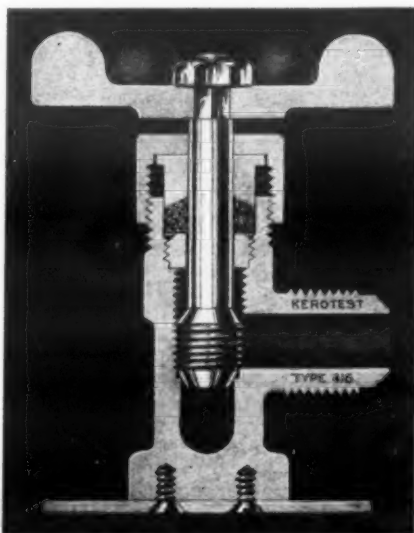
The Kerotest Multiple Monel Metal Diaphragm is also of particular interest—pressure tested to 11250 pounds in the Underwriters Laboratories in full open, half open and closed positions as well as meeting a durability test of 50,000 cycles open and closed.

These Kerotest refrigerator specialties are merely representative of the complete line. Your nearest distributor will be glad to quote you on your requirements.

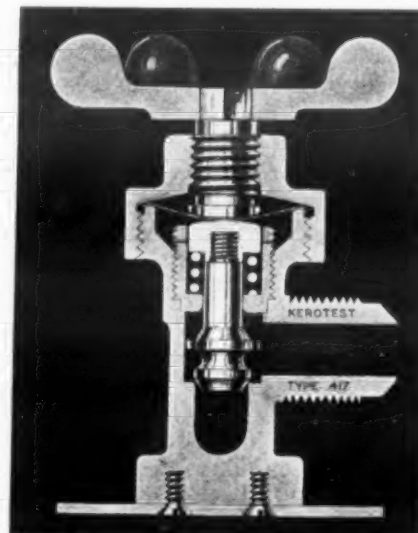
KEROTEST MANUFACTURING CO. PITTSBURGH, PENNA.

DISTRIBUTORS


Dayton, Ohio - - - - - 517 Grafton Ave. E. J. Kimm	Boston, Massachusetts - - - 110 High Street A. E. Borden Co.	Greensboro - - - - - North Carolina Home Appliance Service Co.
Los Angeles, California, 224 East 11th Street Van D. Clothier	Newark, N. J., Jefferson and Chestnut Sts. McIntire Connector Co.	St. Louis, Missouri, 2817 Laclede Avenue Brass & Copper Sales Co.
Chicago, Illinois, 2317 W. Marquette Road G. C. Taylor	New York City - - - - - 59 Warren Street Paramount Electrical Supply Co., Inc.	San Francisco, Calif., Merchants Exchange Bldg. A. W. V. Johnson
Detroit, Mich., 6-247 General Motors Bldg. W. H. Mark Hanna	New York City - - - - - 246 Fifth Ave. W. H. Schrank Company	EXPORT DISTRIBUTORS
Cincinnati, Ohio - - - - - Burbank Street The Merkel Bros. Co.	Philadelphia, Pennsylvania, 523 Arch Street Fritz Brass & Copper Co.	New York City, New York, 116 Broad Street Melchior Armstrong, Desau Co., Inc.



Kerotest Three Way Manifold Valve No. 416 Back Seating Type



Kerotest Valve No. 417 Multiple Diaphragm Type



Sulphur Dioxide

For Direct Charging

Every Container Analyzed
"Pure" Bone Dry

Cylinders 2 to 150 lbs.

ANSUL
Chemical Co.
MARINETTE, WIS.

Also...
Ton Drums-Tank Cars

ELECTRIC REFRIGERATION NEWS

The Business Newspaper of the Refrigeration Industry
Published Every Week by
BUSINESS NEWS PUBLISHING CO.

Also publishers of REFRIGERATED FOOD NEWS (monthly)
and the REFRIGERATION DIRECTORY (annual)
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Cautious Confidence

ALTHOUGH fully aware of the general feeling that 1932 will be a long, hard pull, chief executives of the electric refrigeration industry are inclined to believe that in the new year business will be fully as good, and possibly better, for the industry as it was in the twelve months just past.

Printed in this issue of the NEWS are a number of letters from leaders of the industry. Almost to a man these leaders indicate that they think the industry will be put to a severe test during the coming year; but they also express confidence that the firm foundations already laid by the industry and the strength of its sales organizations will help electric refrigeration continue to be a bright and shining constellation in the industrial firmament.

Good Volume Insured

Astute Louis Ruthenburg, president of Copeland Products, Inc., and chairman of the refrigeration division of the National Electrical Manufacturers Association, declares that "it seems reasonable to assume that a cumulative demand has developed which should insure good volume during 1932."

In agreement is P. B. Zimmerman, manager of the electric refrigeration department of the General Electric Co., who states: "We believe our 1932 sales will be as great, if not greater, than those for the past year."

From E. G. Biechler, president and general manager of the Frigidaire Corp., comes the assertion: "We are expecting that when Frigidaire's net results of 1932 are tabulated they will reflect a decided improvement over 1931."

And in the words of C. E. Allen, commercial vice president of the Westinghouse Electric & Mfg. Co., "There appears to be every reason why the electric refrigeration industry should continue in 1932 the outstanding accomplishments of this year."

Similar expressions have been received from Fred Gennett, secretary of the Starr Co., and C. A. Kuebler, president of the Uniflow Mfg. Co.

New Products Emphasized

One significant fact which may encourage many to believe that the electric refrigeration industry will continue to enjoy good volume in 1932 is the news that many of the leading manufacturers are extending their lines and emphasizing new products.

C. F. Kettering, vice president in charge of research of the General Motors Corp., maintains that *production monotony*—making too much of the same thing—is one of the chief causal factors of a depression.

Many others agree that stabilization, the merits of which are being shouted from the housetops just now by demagogues and the somewhat discredited tribe of economists, is not the answer. Simply dividing up proportionately what already exists will not do much to bring hoarded money back into circulation or start dead wheels turning again. But new products, stimulating new desires, will.

Apparently following this line of reasoning, manufacturers of electric refrigerators are designing more efficient and more attractive water coolers; they are placing room coolers on the market; their engineering laboratories are developing new units for motor truck refrigeration; they

are beginning to stick fingers, albeit somewhat gingerly, into the quick-frozen foods pie.

Commercial Market Good

Increasing attention is being paid to the commercial market, which holds forth great promise for lucrative service during coming years.

The development of more specialized equipment for food-merchandising and food-serving establishments, and the tapping of the field of industrial refrigeration applications such as those employed by food producers, all show that the electric refrigeration industry is spreading its wings and preparing to cover more and more territory.

Another interesting development which may be expected during 1932 is the revamping of distribution organizations. Many straws in the wind point toward the gradual merging of the two styles of distribution now existing side by side.

Intensive, Extensive

Older manufacturers, who have built up big sales volumes through highly controlled and *intensive* distribution, are now trying to get more extensive distribution of their products. Counterwise, the newer manufacturers who have established sales outlets all over the land with amazing rapidity are taking a lesson from the older organizations and seeking to secure more *intensive* selling efforts from their dealers and distributors.

As President Ruthenburg of Copeland points out, "it seems that such merchants will have to be persuaded to adopt specialty selling methods if they are to be successful as distributors of electric refrigeration."

Intense Cultivation

Opinion seems to be divided as to the future of such so-called "sales stimulants" as time payments, coin-meter merchandising, and trial selling. No division of opinion seems to exist, however, on the importance of intense market cultivation by means of heavy advertising and incessant promotion.

The last paragraph of this editorial has been written by the Standard Statistics Co., Inc., in the January 2 issue of its *Standard Trade and Securities*, which states:

"Because of these strong forces which are at work to develop and supply the extensive unexploited field for iceless refrigeration, the 1932 outlook is favorable for approximate duplication of the 1931 showing. Competition undoubtedly will force a continuation of the past trend toward the development and introduction of lower priced units, but there is no indication that this rivalry will become so keen as to seriously curtail margins of profit at an early date."

GLEANINGS

FROM RECENT PERIODICALS

NO ONE can have much confidence in predictions about general business conditions for 1932. All facts and opinions lead only to guesses as to movements up or down or on the existing level. Practical business judgment, however, bespeaks the formulation of programs based upon a continuation of the conditions of 1931—if improvements occur, so much the greater will be the acclaim accorded them.

The counsel of courage is to be optimistic and yet to fight with the greatest possible intelligence and strength. Those who expect no improvement and make no fight to get improvement will not be disappointed, for no gains appear possible except through aggressive and intelligent action.

In the electrical industry there is ample opportunity for increased business. The markets are still unsaturated for industry products and services. Instead of 580 kwh. per home, the figure should be 8,000. Instead of a 10 or 15 per cent appliance saturation in homes, the percentage should be 70 or 80. This home market is a billion-dollar market for utilities, for appliance manufacturers and for makers of wiring supplies.

The million refrigerators sold in 1931 should be duplicated with million-unit sales of each household appliance in 1932. Nor is the industrial market saturated. There is a power load available at least 35 per cent greater than that now supplied. In addition, the use of electric heat and electric processes in industry affords a business of equal magnitude for the sale of both energy and manufactured products. Besides this, the lighting business is not developed to more than 50 per cent of its possibilities.

But this new business must be sold. Salesmen must replace order takers, and utility and manufacturing executives will have to make rates and products that are competitive and meet the requirements of these markets. No longer will normal national growth and self-selling services and products sustain business or increase business.

Conditions exist that require new and different treatments; but if the industry will meet the situation, it can very greatly increase its own business, even though the general level of business activity in this country remains at present levels. The acquisition of this business profitably and intelligently is the major problem of the industry and its major opportunity.—*Electrical World*, Dec. 26, 1931.

Letters from Readers

More Fan Mail in re Greencastle

Copper & Brass Research Association
25 Broadway,
New York.
Dec. 28, 1931.

Editor:
I read with interest the resentment of the Greencastle (Ind.) *Daily Banner* ("It Waves For All") over your thumbnail impressions of their fair metropolis. I have also read one or two previously printed caustic annotations by indignant defenders. It would seem as though a slight difference of opinion existed between Mr. Taubeneck and Greencastle's proponents.

On the one hand we read of "rolling dirt streets . . . cinder paths interrupted by short stretches of brick sidewalk . . . sagging frame dwellings . . . bedraggled store fronts which have the appearance of perpetual rainy weather." To which the *Daily Banner* ("It Waves For All") declaims of "a modern city . . . paved streets . . . modern houses . . . some of the finest homes he ever saw." The population of Greencastle, we understand, was 4,613 in 1930. The probability of several births and deaths during the past year may relegate this figure to obsolescence.

Never having visited Greencastle, I cannot present myself as an impartial arbiter. However, if it is as modern as its defenders shout, I shall never be moved to visit it. If, on the other hand, Mr. Taubeneck's description can be guaranteed and affidavit, I shall make a special point of sojourning in Greencastle on my next trip West. The prospect of a quaint town with "overhanging rows of old shade trees . . . cinder paths . . . mellow old DePauw University" fires me with delight and anticipation. It is reminiscent of the old New England villages which annually harbor thousands of business-weary "city folk."

I should be positively disappointed—yes, even incensed—if in Greencastle I found "no parking" signs at all logical parking points, automatic traffic lights at all crossings, a constant rush of arrogant motor cars, and bustling shops. I am afraid I would even be tempted to write a vituperative letter to Mr. Taubeneck calling him to task for enticing me to Greencastle under false pretenses.

G. VINCENT BUTLER.

It's Wise to Choose A Weekly

Ahrens Publishing Co., Inc.
333 N. Michigan Ave.
Chicago.
Dec. 30, 1931.

Editor:
It is a pleasure to send you several copies of the *Hotel World-Review*. This publication is a companion paper to *Hotel Management*, our national monthly business magazine for the hotel field. The *Hotel World-Review* is a newspaper. During the current year it has been published as a monthly magazine with weekly supplements in tabloid newspaper form, and all advertising (with the exception of classified), has been bulked in the monthly issues. Beginning February, 1932, the monthly pictorial magazine will be discontinued, and the paper issued as a regular tabloid weekly newspaper. The reason for eliminating the monthly magazine is that we found readers' interest in the weekly newspapers far exceeding their interest in the monthlies.

G. A. AHRENS,
Western Representative.

He Wants More About Oil Burners

South Grand Company
3651 S. Grand Blvd.
St. Louis, Mo.
Dec. 26, 1931.

Editor:
I have been greatly interested in your article in issue of Dec. 23, 1931, concerning the experiment of the Detroit distributor of Kelvinator in retailing an oil burner.

The oil burner seems to be an ideal companion article to the electric refrigerator (so far as retail operations are concerned). Can't you give us more articles on this subject, with as much detail respecting sales methods as possible?

M. R. BEVINGTON.

Monthly Volume Idea Goes Over

Maxon, Inc.
Cleveland, Ohio.
Dec. 30, 1931.

Editor:
This is just a note to acknowledge receipt of and to thank you for the bound copy of the November issues of *ELECTRIC REFRIGERATION NEWS*. The idea of this bound copy appeals to me tremendously, not only for our reception room, but after it has served its purpose there, it can be placed in

our files as a permanent reference volume of *ELECTRIC REFRIGERATION NEWS*. In this way, we will save the individual checking copies from loss and mutilation.

Thank you again.

H. G. SELBY.

Norge Corp.
Detroit, Mich.
Nov. 20, 1931.

Publisher:
The album of the October issues of your paper received and certainly wish to compliment you on your good judgment and think that there will be no reason why this cannot continue month by month.

W. F. THORPE,
Advertising and Sales Promotion.

Baker Ice Machine Co., Inc.
Omaha, Nebr.
Nov. 17, 1931.

Publisher:
We have received the bound copy of issues of *ELECTRIC REFRIGERATION NEWS* and *REFRIGERATED FOOD* for the month of October.

You may be assured that this will have a prominent place on our reading rack, and later in our permanent files. As a new advertiser we trust that we will receive these publications bound in this manner every month.

GEO. M. SEEBEE,
Advertising Mgt.

Century Electric Co.
St. Louis, Mo.
Nov. 23, 1931.

Publisher:
Your letter and a bound copy of the NEWS for the month of October, addressed to Mr. Woodress, has been received in good condition.

We appreciate your sending us a copy of your publication in this form and are passing it on to those interested.

OLIVER S. IMES,
Publicity Dept.

The Roessler & Hasslacher Chemical Co.
Niagara Falls, N. Y.
Nov. 18, 1931.

Publisher:
Many thanks for the bound volume of your October issues of *ELECTRIC REFRIGERATION NEWS*.

We are sure it will come in very handy, and we appreciate your thoughtfulness in sending this to us.

JOHN J. LANDY,
Advertising and Publicity Dept.

Speeding Up The Service

Williams Oil-O-Matic Heating Corp.
Bloomington, Ill.
Dec. 30, 1931.

Editor:
We appreciate your successful efforts to speed up the service of *ELECTRIC REFRIGERATION NEWS* during 1931. Its weekly visits are highly valued throughout this organization.

J. M. CULLINAN,
Editor, Williams News-O-Matic.

Back to Knitting

Modern Home Utilities, Inc.
Waterbury, Conn.
Dec. 3, 1931.

Editor:
You are certainly to be congratulated on your fine publication. If one can't keep abreast of the new developments in the field today, with the aid of *ELECTRIC REFRIGERATION NEWS*, he had better go back to knitting.

LELAND L. STACY,
Sales Promotion Mgr.

Kind Words Dept.

I think a lot of the *ELECTRIC REFRIGERATION NEWS*. I have advised others to get it—H. T. Maring, 37 Baltimore St., Gettysburg, Pa.

You have a very fine paper and I thoroughly enjoy reading it—G. L. Richardson, representing Mayflower in the southeastern states, Merchenville, N. J.

PENDERGRAPH-BROWN, INC., OPENS NASHVILLE STORE

NASHVILLE, Tenn.—New showrooms of Pendergraph-Brown, Inc., General Electric distributor, have been opened in the Paramount Theater Bldg., at 1719 Church St.

It was also announced that officials expect to move the main offices of the company from Memphis to Nashville around the first of the year.

H. A. Pendergraph and C. O. Brown are officials of the organization and were formerly with the Georgia Power Co., prior to coming to Memphis.

Frank Loughran, Jr., will continue as manager of the Nashville store. During the formal opening, Miss Louise Midyett, home economist, acted as demonstrator.

LANG SUCCEEDS RICE IN G. E. PUBLICITY JOB

SCHENECTADY, N. Y.—Chester H. Lang, former assistant manager of the publicity department and then comptroller of the budget of the General Electric Co., has been appointed publicity manager to succeed Martin P. Rice, who retired Dec. 31 after more than 37 years of service with the company.

Mr. Lang, a native of Erie, Pa., was graduated from the University of Michigan in 1915. During the war he served as a first lieutenant of field artillery.

He has been with General Electric since 1919, when he was employed as a travelling auditor. Three years later he became assistant manager of the publication bureau, which later became the publicity department. In January, 1926, he was appointed to the newly created position of comptroller of the budget.

Mr. Rice, a graduate of the University of Pennsylvania, entered the employ of General Electric in 1895. When the publication bureau was organized 35 years ago he was made manager, and with the consolidation of this bureau with the advertising department nine years ago he became manager of the publicity department.

In 1903 he established the technical magazine of the company, the *General Electric Review*. Under his direction the Maqua Co., which produces much of the company's printed matter, was established.

In 1921, when G. E. became interested in radio broadcasting, Mr. Rice was made director of that activity. In this position he outlined company policy, and established its three broadcasting stations: WGY, Schenectady; KGO, Oakland; and KOA, Denver.

MIDDLE WEST UTILITIES SHOW INCREASE IN OUTPUT

CHICAGO—A general increase in energy output, applying in varying degree to all classes of consumers, is evident in a report of operations of the Middle West Utilities System for October and for the first 10 months of 1931.

Excluding new companies acquired during the year, residential consumption in October was 12.6 per cent greater than that of October, 1930; commercial power 9.1 per cent, and total output 6.7 per cent greater. Including additions, residential sales increased 14.8 per cent, and total output 9.2 per cent.

Discuss Sales Methods



James P. McMillan (center), sales manager of Southern Radio Corp., Servel Hermetic distributor, Charlotte, N. C., talks things over at the factory with C. A. Miller (right), sales manager of Servel Sales, Inc., and Roderic Peters, assistant sales manager in charge of government business and Eastern utilities.

SYRACUSE DEALER SELLS 380% OF QUOTA IN DRIVE

MANSFIELD, Ohio.—C. R. Coons, Westinghouse refrigerator dealer at Saugerties, N. Y., won the Syracuse division Commanders' contest with 380 per cent of his sales quota to lead all dealers in that division.

Seidel Brothers, of Bordentown, N. J., a B dealer for the Elin Co., Newark, made 355 per cent of its sales quota in the contest.

Other dealers who won their respective Commanders' contest are: Sol Lewis, Omaha, 350 per cent; Sunrise Utilities, a Times-Appliance Co., New York, dealer, 277 per cent; Lawrence Tompkins, Danforth Refrigerator Co., of Cleveland, dealer, 260 per cent.

Greensburg Motor Co., dealer for Iron City Electric Co., Pittsburgh, 237 per cent; Shaffer & Co., Englewood, N. J., dealer for the Elin Co., Newark, 221 per cent.

RAFFEL BUYS INTEREST OF BUSINESS PARTNER

BALTIMORE, Md.—Arthur S. Raffel has taken over the interest of his partner, James A. Crowe, in the electrical refrigeration and radio business, operated under the name of the Charles Service Co., at 2 E. Lafayette Ave.

INDIANA UTILITIES HIT BY CHAIN STORE TAX

INDIANAPOLIS, Ind.—The so-called "chain store tax," passed by the Indiana state legislature two years ago, has a direct affect on utility concerns which retail merchandise, it was learned through a ruling by the state attorney-general, Dec. 19.

The attorney-general ruled that while utilities as such are not subject to this tax, yet if they maintain departments where merchandise of any description is sold, a tax will have to be imposed on each such department.

The Wabash Valley Electric Co., serving dozens of Indiana towns with an appliance department in each, will fall into the higher range of taxes, \$25 for each such store. This example is said to give some idea of the extent of the new ruling's effect.

Manufacturers of such appliances also will be hit, for the ruling states that "agents representing home or foreign concerns having offices and taking orders will be made to pay the tax, which includes a 50-cent fee for each taxable unit, renewable, with fee, each year."

Since the law has been sustained in the United States Supreme Court, Indiana utility officials believe that the next legislature may increase the tax.

6 Kelvinator Officials Address Dealer Convention Of N. J. Public Service Co.

NEWARK, N. J.—Six Kelvinator officials were the speakers at a distributor-dealer convention held by the Public Service Co. of New Jersey here Dec. 28.

President G. W. Masor of Kelvinator spoke on "Kelvinator's Place in the Refrigeration Industry." H. W. Burritt, vice president, took the initials K. W. H. and said that instead of meaning kilo-watt hours, they meant "keep working harder."

J. S. Sayre, sales manager, A. M. Taylor, advertising director, Vance Woodcox, sales promotion manager, and E.

A. Seibert, service manager, presented the 1932 Kelvinator line and plans for advertising, selling, and servicing it.

F. D. Pemberton, executive head of the Newark office of the public utility company, and H. P. J. Steinmetz, general sales manager, had charge of meeting.

WHITEHEAD DEALER NAMED

SOUTH MANCHESTER, Conn.—Watkins Brothers, Inc., 932 Main St., has been announced as a new dealer for the Whitehead electric refrigerator.

STARTING:

AN EVEN GREATER YEAR

FOR *Rollator*

REFRIGERATION DEALERS

Seven years ago the first Norge Electric Refrigerator was built

Back of it was an idea . . . the Rollator! In this mechanism, long the ideal of refrigeration engineers, the rotary compressor, was made practical . . . a simple, powerful, compact unit, almost everlasting.

Even now the first Norge refrigerators are giving consistent day after day performance. And there is every reason to expect them to continue doing so for many more years.

Norge has found no way to improve on the powerful, simple Rollator. But Norge has contributed many new user conveniences and introduced original advancements and exclusive features in refrigeration.

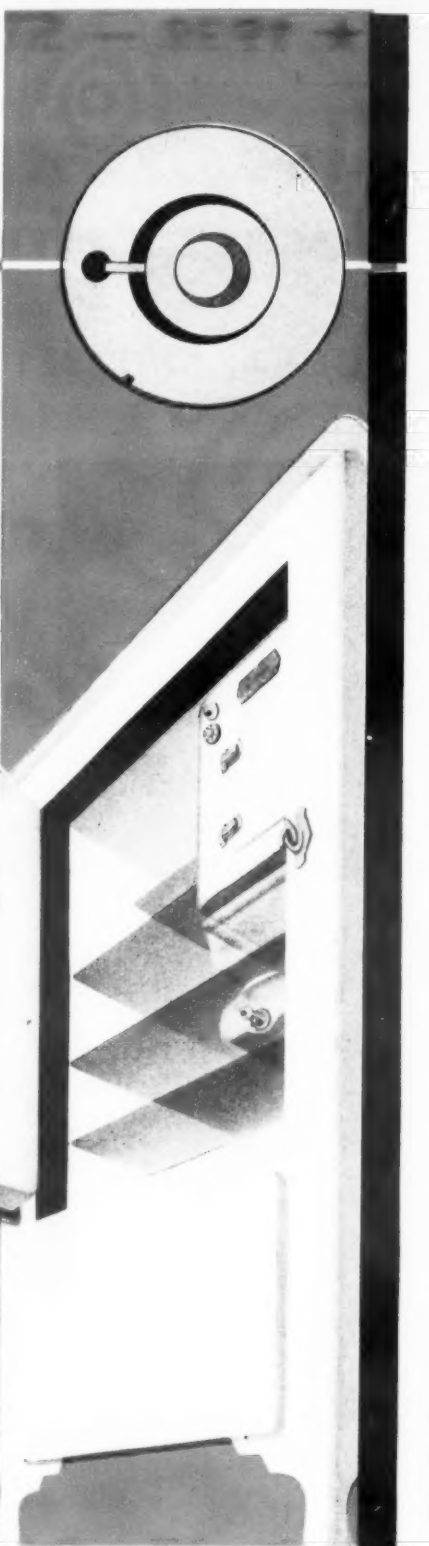
These advantages and the superior Rollator mechanism, last year, brought Norge from a place as one of many refrigerators, to an impressive position with the leaders of the industry.

Twelve months ago we promised Norge Dealers a BIG year. Now we promise an even greater year to Norge Rollator Refrigeration Dealers.

If you would share in a prosperous, profitable year ask about the Norge Dealer Plan, now.

NORGE CORPORATION, 658 E. WOODBRIDGE ST., DETROIT, MICHIGAN
Norge Corporation is a division of Borg-Warner Corporation, one of the world's largest makers of automotive parts, including free wheeling.

NORGE
Rollator refrigeration



THE ROLLATOR

Simplest electric refrigeration mechanism, the Rollator is powerful, compact, trouble free and almost everlasting.

Revere Brass Forgings

speed production...cut costs

One of the oldest and most prominent manufacturers of refrigerators recently changed from castings to Revere Brass Forgings for fittings in their refrigerant lines.

Three important advantages appealed particularly to this manufacturer, whose letter to us says (in part):

"We are handling a gas which is extremely thin, and the close texture and grain construction of Revere Brass Forgings is a decided necessity. Another factor: with Revere Forgings we are able to maintain a definite inventory figure, not possible with castings because of high scrap. If it were necessary to revert to castings, we would be seriously handicapped in our manufacturing program."

Other advantages of Revere Brass Forgings include lighter weight and easier machinability, with resultant savings amounting to as high as 45%.

Other Revere products for the electric refrigeration industry, Dehydrated Seamless Copper Tubing, Sheet Copper, Brass Rod.

For further information address Revere Copper and Brass Incorporated, 230 Park Avenue, N. Y. C.

Revere Copper and Brass INCORPORATED

Baltimore Division, Baltimore, Md. Dallas Division, Chicago, Ill.
Higgins Division, Detroit, Mich. Michigan Division, Detroit, Mich.
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For refrigerators
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Testing and experimental
laboratory service for Man-
ufacturer, Distributor, Cen-
tral Station. Test data ex-
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Laboratories**
80th St. & East End Ave.
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The Purest Sulphur Dioxide

EXTRA DRY ESOTOO

TRADE MARK REG. U. S. PAT. OFF.

Refrigeration Grade. Pure, easy to handle, does
not deteriorate. Guaranteed not over 50 parts
moisture per million.

Prompt shipments from own agents' stock over U.S.A.
Write or wire where we can serve you.

VIRGINIA SMELTING COMPANY
West Norfolk, Va.
131 State St., Boston 75 West St., New York

Leading Salesmen, Supervisors Win Places in Westinghouse Contest

MANSFIELD, Ohio—The two leading
salesmen and one leading supervisor of
each distributor, entered in the "On-to-
Mansfield" expedition just completed by
Westinghouse refrigerator outlets, were
announced in the Dec. 23 issue of *Cold
Selling Talk*, Westinghouse sales news-
paper.

Forty-four distributors' organizations
were entered in the contest. They are,
arranged geographically from the east
coast to the west, as follows:

Times-Appliance Co., Inc., New York
City: Allen Black, Allen-Ingraham, Inc.,
New York City, 22,262 miles, apartment
house; J. J. Brennan, Electric Servant
Co., Yonkers, N. Y., 14,945 miles, retail
and apartment house; H. Midgley, Allen-
Ingraham, Inc., New York City, 10,380
miles, apartment house supervisor.

Elin Co., Newark, N. J.: M. W. Meyer,
Schaffer & Co., Englewood, N. J., 9,115
miles, retail; R. Traphagen, Elin Co.,
Newark, 7,427 miles, apartment house;
Alfred James, Elin Co., Jersey City, N. J.,
4,661 miles, retail supervisor.

Wetmore-Savage Electric Supply Co.,
Boston: C. B. Harding, Electric Device
Co., Springfield, Mass., 22,470 miles, re-
tail; L. J. Selya, Wetmore-Scott, Boston,
19,425 miles, retail; E. A. Lawrence,
Electric Device Co., Springfield, 9,261
miles, retail supervisor.

Connecticut Electric Refrigerator Co.,
New Haven, Conn.: Peter Sugrue, How-
land Dry Goods Co., Bridgeport, Conn.,
4,895 miles, retail; Albert Humphreys,
Connecticut Electric Refrigerator Co.,
Hartford, 4,255 miles, retail; C. K. War-
ren, Connecticut Electric Refrigerator
Co., Hartford, 3,277 miles, retail super-
visor.

McCarthy Bros. & Ford, Buffalo, N. Y.:
J. R. Conley, Conley Furniture Store,
Buffalo, 1,520 miles, retail; Leonard

Johnson, Leonard Johnson, Inc., James-
town, N. Y., 600 miles, retail. No super-
visor.

Wesco, Rochester, N. Y.: Grover Good-
man, Howe & Rogers Co., Rochester,
N. Y., 8,970 miles, retail; Boyd Mahaffey,
Mahaffey Paint & Varnish Co., Corning,
N. Y., 240 miles, retail; F. B. Hagen,
Howe & Rogers, Rochester, 1,818 miles,
retail supervisor.

Wesco, Syracuse, N. Y.: Erwin La-
Prairie, Herzog Hardware & Paint Co.,
Kingston, N. Y., 7,680 miles, retail; R.
M. Fisher, Thomas H. Bradley, Water-
town, N. Y., 5,670 miles, retail; L. M.
Rayhill, Kempt Bros., Utica, 1,067 miles,
retail supervisor.

Penn Electric Engineering Co.

Penn Electric Engineering Co., Scrant-
on, Pa.: E. L. Murray, Murray Co.,
Honesday, Pa., 4,225 miles, retail; R. E.
Hughes, White Hardware Co., Wilkes-
Barre, 2,320 miles, retail; E. E. Morton,
Anthracite Refrigerator Co., Scranton,
158 miles, retail supervisor.

Van Zandt Supply Co., Huntington, W.
Va.: J. J. Mullen, Van Zandt Supply Co.,
Huntington, 8,910 miles, retail; H. T.
Field, Van Zandt Supply Co., 1,809 miles,
retail supervisor.

Elin Co., Philadelphia: J. A. Griffith,
Elin Co., Philadelphia, 6,355 miles, re-
tail; J. J. O'Donnell, Elin Co., Philadel-
phia, 3,950 miles, retail; H. E. Allmang,
Elin Co., Philadelphia, 2,541 miles, retail
supervisor.

Wesco, Philadelphia

Wesco, Philadelphia: J. M. Brice Har-
rison Refrigerator Co., Atlantic City,
N. J., 7,270 miles, retail; J. W. Miller,
M. L. Mumma, Harrisburg, Pa., 4,375
miles, retail; Charles E. Moody, Harri-
son Refrigerator Co., Atlantic City, N. J.,
7,064 miles, retail.

Edgar Morris Sales Co., Washington,
D. C.: S. Smart, Edgar Morris Sales Co.,
7,899 miles, apartment house and retail;
C. H. Durrer, C. A. Muddiman Co.,
Washington, D. C., 7,725 miles, retail;
Charles Stearn, Edgar Morris Sales Co.,
4,074 miles, retail supervisor.

Parks & Hull, Baltimore, Md.: F. E.
Cunningham, Parks & Hull, Baltimore,
Md., 4,275 miles, retail; J. A. Gibbons,
Parks & Hull, Baltimore, 2,580 miles,
retail; R. P. Hyder, Parks & Hull, Bal-
timore, 3,143 miles, retail supervisor.

Wesco, Columbia, S. C.

Wesco, Columbia, S. C.: J. B. Nor-
man, Odum Battery & Tire Co., Spartan-
burg, S. C., 480 miles, retail; W. S. Lau-
mean, Seiglins Music House, Charle-
ston, 360 miles, retail; R. B. Pickette,
Seiglins Music House, Charleston, 68
miles, retail supervisor.

Wesco, Charlotte, N. C.: T. M. Hun-
ter, Hunter Bros. Electric Co., Fayette-
ville, N. C., 995 miles, retail; R. E. Crad-
dock, Shuler & Craddock, Charlottes-
ville, Va., 180 miles, retail.

Wesco, Tampa, Fla.: G. W. Boynton,
Eaton Electric Co., West Palm Beach,
5,625 miles, retail; T. Y. Sperry, Bigby
Electric Co., Tampa, 2,480 miles, retail;
S. F. Osteen, Bigby Electric Co., Tampa,
1,546 miles, retail.

Gilham Electric Co.

Gilham Electric Co., Savannah, Ga.:
Charles E. Johnson, Southern Specialty
& Fixture Co., Savannah, 1,330 miles,
retail; R. M. Kihl, Southern Specialty
& Fixture Co., Savannah, 333 miles, re-
tail supervisor.

Tafel-Williams, Inc., Nashville, Tenn.:
C. L. Townsend, Clary-Tafel-Williams,
Chattanooga, Tenn., 6,115 miles, retail;
F. H. Watkins, Tafel-Williams, Inc.,
Nashville, 4,330 miles, retail; R. B. Scar-
borough, Tafel-Williams, Inc., 1,817
miles, retail supervisor.

Monroe Hardware Co., Monroe, La.:
Stuart Walters, The Electric Shop,
Baton Rouge, La., 4,630 miles, retail.
Electric Refrigeration Co., New Or-
leans, La.: A. D. Brunskill, D. H.

Holmes Co., New Orleans, 4,910 miles,
retail; W. R. Branham, D. H. Holmes
Co., New Orleans, La., 1,022 miles, re-
tail supervisor.

Moore-Handley Hardware Co., Bir-
mingham, Ala.: J. E. Whitaker, Taylor
Hardware Co., Pensacola, Fla., 1,970
miles, retail; J. T. Brantley, Troy Har-
ware Co., Troy, Ala., 1,025 miles, retail;
C. E. Brantley, Troy Hardware Co.,
Troy, Ala., supervisor.

Wesco, Cleveland, Ohio: L. G. Wine-
land, Harned's Music House, Meadville,
Pa., 1,265 miles, retail; William H. Hert-
tua, Mitchell Hardware Co., Ashtabula,
Ohio, 830 miles, retail; D. W. Mitchell,
Mitchell Hardware Co., Ashtabula, Ohio,
supervisor.

Wesco, Toledo, Ohio: J. H. Hiester,
The Seidle Co., Van Wert, Ohio, 2,530
miles, retail; J. H. Beat, J. W. Greene
Co., Toledo, Ohio, 720 miles, retail; H. A.
Bonsteel, J. W. Greene Co., Toledo, 325
miles, retail supervisor.

Danforth Refrigerator Co., Cleveland,
Ohio: H. L. Buehler, Danforth Refrig-
erator Co., Lakewood, Ohio, 15,650 miles,
retail; L. E. Tompkins, L. E. Tompkins
Radio Co., Cleveland, 8,925 miles, retail;
W. P. Bevan, Danforth Refrigerator Co.,
7,141 miles, retail supervisor.

Dalrymple Co., Detroit: Ed. Wroblos,
Dalrymple Co., Detroit, 2,435 miles, re-
tail; R. Taylor, Dalrymple Co., Detroit,
1,195 miles, retail; R. J. Schneider,
Dalrymple Co., Detroit, 2,478 miles, re-
tail supervisor.

Iron City Electric Co., Pittsburgh, Pa.:
L. F. Sorrels, Whitehill & Danforth,
Pittsburgh, Pa., 9,880 miles, retail; H. G.
Ratner, Greensburg Motor Co., Greens-
burg, Pa., 9,123 miles, retail; R. Sheriff,
Whitehill & Danforth, Pittsburgh, 4,891
miles, retail supervisor.

Moock Electric Supply Co., Canton,
Ohio: G. M. Nutter, M. O'Neil Co., Ak-
ron, 3,135 miles, retail; Frank Jackson,
LeRoy, Ohio, 720 miles, retail.

American Radio Distributing Co., Co-
lumbus, Ohio: C. J. Argus, Ironton Tire
Shop, Ironton, Ohio, 3,475 miles, retail;
Bryon VanAtta, Pataskala Garage, Pa-
taskala, Ohio, 2,640 miles, retail; C. C.
Robinson, Columbus Railway Power &

Light Co., 2,405 miles, retail supervisor.
Tafel-Williams, Inc., Louisville, Ky.:
Frank Lay, Tafel-Williams, Inc., Cincin-
nati, Ohio, 4,400 miles, retail; H. E.
Burck, Burck-Bauer, Inc., Cincinnati,
Ohio, 4,140 miles, retail; F. A. Bush-
miller, Tafel-Williams, Inc., Cincinnati,
2,025 miles, retail supervisor.

F. H. Johnson Co., Chicago: E. J. Rob-
inson, F. H. Johnson Co., Chicago, 7,945
miles, retail; L. S. Snyder, F. H. John-
son Co., 7,723 miles, retail and apart-
ment house; William M. Thuerk, F. H.
Johnson Co., Chicago, 4,723 miles, retail
and apartment house supervisor.

Wisconsin Sales & Supply Co., Mil-
waukee: Walter Tieche, Wisconsin Sales
& Supply Co., Milwaukee, 10,335 miles,
retail; H. Larson, Wisconsin Sales &
Supply Co., Milwaukee, 2,485 miles, re-
tail; R. W. Barbour, Wisconsin Sales
& Supply Co., Milwaukee, Wis., 2,068
miles, retail supervisor.

Wesco, Chicago: B. A. Bleur, Daven-
port Kol Master Co., Davenport, 885
miles, retail; R. J. Wilson, Morehouse
& Wells Co., Decatur, 850 miles, retail.

Wesco, St. Paul, Minn.: Ivar Zetter-
berg, Rose & Martin, Minneapolis, 4,175
miles, retail; Ray Emmons, Rose & Mar-
tin, Minneapolis, Minn., 2,370 miles, re-
tail; A. C. Meyer, Rose & Martin, Min-
neapolis, 2,433 miles, retail supervisor.

Wesco, Milwaukee: Don V. Wells,
Iowa Railway & Light Corp., Cedar
Rapids, Iowa, 2,550 miles, retail; H. F.
Krehl, Krehl & Son, Madison, Wis., 2,025
miles, retail; R. S. Griefen, Salters Elec-
tric Shop, Waukesha, 213 miles, retail
supervisor.

Wesco, Omaha, Nebr.: Sol Lewis,
(Concluded on Page 9, Column 1)

Fulco
Refrigerator
COVERS
Insure deliveries with-
out scratched or brok-
en enamel. Write for
prices.
Fulco Bag & Cotton Mills

★ 1932 — START IT RIGHT ★

SEE

The Starr-Freeze Electric Refrigerator Line

Latest Styles New Improvements Extensive Line

BIGGER AND BETTER THAN EVER

MODELS FOR THE HOME — 12 STYLES

COMMERCIAL EQUIPMENT
FOR ALL PURPOSES

Condensing Units Cooling Units

Engineered and built complete
in our own factories

★

Seeing is Believing

You are cordially invited to
inspect the pre-showing of our
complete line and satisfy your-
self of STARR-FREEZE supe-
rior values.

DISPLAYS AT:

CHICAGO The Starr Company, Cable Bldg., 57 E. Jackson
(JACKSON AT WABASH AVENUE)

New York City Royal Refrigeration Co.
200 Lexington Avenue

Richmond, Indiana
The Starr Company (Factories)

Los Angeles
The Starr Piano Co.
1344 S. Flower Street

1931 Was Wonderful Starr-Freeze Year. 1932 Will Be Even Greater

Some unoccupied terri-
tory yet available. A real
constructive profit-mak-
ing proposition is open
to first-class dealers and
distributors. We invite
your inquiries.



THE STARR COMPANY

RICHMOND, INDIANA

CABLE ADDRESS "STARR" U. S. A. ESTABLISHED 1872

"STARR PRODUCTS EXCEL"

★★

Artic

REG. U. S. PAT. OFF.

(Methyl Chloride)

- It's Quick Freezing
- It's Stable
- It's Non-Corrosive
- It's Easily Handled

in fact, it's

THE
IDEAL
REFRIGERANT

for both household and commercial
units.

Prompt deliveries can be made
from stocks carried at conven-
ient distribution points through-
out the country.

Write for Information

The
ROSSER & HASSLACHER CHEMICAL COMPANY
Incorporated

Empire State Building
350 Fifth Avenue New York, N.Y.

How Leading Manufacturers Are Improving their Cabinets

Rust-Resisting
Cabinets
constructed of

Superior
"Super-Metal"
PATENTED PROCESS

offer the Highest
Efficiency
Obtainable

The Coating affords protection against Rust! (Zinc coated.)

Under the most difficult operations of Cabinet Production
the Coating will not Break or Peel.

It offers an ideal surface (a bond) for Lacquer, Air Drying
or Baked Enamel.

It will retain these finishes under severe conditions of use.

Through the widespread adoption of this special coated
sheet metal, cabinet manufacturers have brought about a
basic improvement.

The
Superior Sheet Steel Company
Canton, Ohio

Division of Continental Steel Corporation,
Kokomo, Ind. Operating Plants at Koko-
mo, Ind., Indianapolis, Ind., Canton, Ohio.

Superior
Galvannealed
PATENTED PROCESS

WESTINGHOUSE TRIP WINNERS ARE LISTED

(Concluded from Page 8, Column 5)

Omaha, 6,265 miles, retail and apartment house; C. E. Churchill, Churchill Electric Co., Battle Creek, Iowa, 520 miles, retail.

Wesco, Indianapolis, Ind.: D. S. Humphrey, Maytag Distributors, Inc., Indianapolis, Ind., 2,745 miles, retail; J. Potts, Standard Electric Sales Co., Terre Haute, Ind., 1,420 miles, retail; A. Teaford, Maytag Distributors, Inc., Indianapolis, Ind., 619 miles, retail supervisor.

Wesco, Dallas, Tex.

Wesco, Dallas, Tex.: W. E. Mott, Fred R. Gamble, Dallas, Tex., 14,305 miles, retail; J. E. Page, Kallison's Department Store, San Antonio, Tex., 6,900 miles, retail and apartment house; F. R. Gamble, Dallas, 3,860 miles, retail supervisor.

Arthur R. Lindburg Co., St. Louis: G. J. Minor, A. R. Lindburg Co., St. Louis, Mo., 22,285 miles, retail; Mrs. F. Hendricks, A. R. Lindburg Co., St. Louis, 4,080 miles, retail; Arnold Wick, A. R. Lindburg Co., St. Louis, 7,104 miles, retail supervisor.

Satterlee & Blue, Inc., Kansas City, Mo.: L. F. Stein, Satterlee & Blue, Kansas City, Mo., 16,750 miles, retail; A. S. Bredehoeft, Satterlee & Blue, 1,260 miles, retail; J. S. Stinnett, Satterlee & Blue, Kansas City, 3,115 miles, retail supervisor.

Columbian Electric Co., Kansas City, Mo.: W. I. Harper, Junction Drug Co., St. Louis, Mo., 8,660 miles, retail; H. B. Baker, Harris & Goar Co., Topeka, Kans., 2,095 miles, retail.

California Distributors

LaMotte & Callaway, San Diego, Calif.: H. E. Callaway, Thearle Music Co., San Diego, Calif., 3,325 miles, retail; E. L. Hardegree, LaMotte & Callaway, San Diego, Calif., 1,320 miles, retail; J. C. Chamberlain, LaMotte & Callaway, San Diego, Calif., 1,408 miles, retail supervisor.

Wesco Los Angeles, Calif.: L. R. Spates, Ruebel Electric Co., Alhambra, Calif., 7,270 miles, retail; P. A. Thieme, Electric Construction Co., Fresno, Calif., 5,720 miles, retail; A. F. Kramer, Electric Construction Co., Fresno, 1,083 miles, retail supervisor.

Wesco, San Francisco: G. P. Orput, L. E. Kreps, Monterey, Calif., 2,640 miles, retail; H. E. Arnold, Arnold Bros., Inc., Sacramento, 564 miles, retail supervisor. Hawaiian Electric Co., Honolulu, T. H.: V. A. Nahl, Hawaiian Electric Co., Honolulu, T. H., 5,670 miles, retail; C. E. Nolan, Hawaiian Electric Co., Honolulu, 1,072 miles, retail supervisor.

FESSLER TO ORGANIZE NEW BUREAUS IN NEW JERSEY

NEWARK, N. J.—C. E. Fessler has been appointed by the New Jersey Electric Refrigeration Bureau to act as contact man with central stations and dealers in organizing new bureaus.

Mr. Fessler will begin work after Jan. 1, according to D. R. Schively, of the bureau field staff.

Electric Refrigeration Bureau Work In December Summarized

By G. N. Brown

(Manager, Electric Refrigeration Bureau)

Activities of the Electric Refrigeration Bureau for December, 1931, can be digested as follows:

Utility Company Cooperation

From a number of sources we have received most encouraging letters as to the way in which the utility companies have gotten behind the Bureau activities and as this kind of cooperation is one of the big reasons for the Bureau's existence, we want you to know what has been written.

G. B. Buck, general commercial manager of Public Service Co. of Colorado, writes to J. E. Davidson, "Our refrigeration sales this year have been outstanding. You can rest assured we will continue striving in this direction and, regarding the refrigeration program for next year, count us in to the limit."

From the Refrigeration Bureau of Rhode Island comes a detailed report on the year's activities in which they show that 5,047 refrigerators were sold, and the chairman in his letter states, "You will see from the report that the sales by dealers were practically two to one as against the utilities, which shows conclusively that the dealers can sell refrigerators when the utilities are doing a truly cooperative job."

From the Omaha Refrigeration Bureau is a report showing sales for 11 months of this year of 2,935 machines against a quota of 2,650, and reference made to the splendid cooperation of the utility company with the distributors and dealers.

St. Louis reports that they sold 20,750 refrigerators in nine months this year and that the year's sales will exceed 10 per cent of their domestic meters. This is the result of splendid cooperation of the utility company and 86 dealers.

Publicity

Advance notices on all scheduled meetings of field men were sent to the local press with copies to the local utility man so that should he desire to make any change, he could do so. A great improvement has been noticed in the amount of publicity appearing in the trade journals. During the month, 626 column inches of publicity appeared in 23 trade journals.

Releases were made to Associated Press, United Press and International News Service on the resistance of the electric refrigeration industry to depression and on Mr. Ruthenburg's paper before the New York Food Marketing Council. Both releases, judging from the clippings received, were given wide publicity.

Holiday Window Display Contest

Photographs received up to Jan. 12, will be included in the Window Display contest. Many have already been sent in and much interest has been taken in the contest.

New Local Bureaus

In the November letter a total of 321 local Bureaus were reported. This num-

ber is now 342 with every indication that the number will keep on growing as our field men continue their activity.

Local Bureau Questionnaires

From questionnaires returned by local Bureaus, we find the following interesting information:

Bureaus reporting 53
Population represented 7,912,765
Domestic meters represented 1,739,381
Total amount spent (nine months) \$177,934
Central station contribution \$177,072
Number of shows held 60
Attendance 433,056
Note: Philadelphia largest city reporting. Most of the cities are small.

Refrigeration Charts

A free distribution of 200 sets of large charts on food preservation and refrigeration has been made to home economists in educational institutions throughout the country. Each set consists of 20 charts, together with a descriptive talk and have been selling at \$5.00 per set. A letter from Miss Eloise Davison, N.E.L.A. Home Economics Department, to each recipient explained their use.

Field Men

Dr. G. W. Allison addressed two large meetings in Buffalo, one the Electric League and the other the Advertising Club. Following these meetings, he had an itinerary of five meetings in Illinois and five in Michigan.

All of these were preliminary Bureau meetings of dealers, distributors and central station men. Credit should be given to C. H. Kallstedt of the Western

United Gas and Electric Co., state director of Illinois, and F. P. Pope of Consumers Power Co., state director of Michigan, for their cooperation in perfecting the arrangements.

Don R. Schively had a number of meetings in New York state and since then has been working with the state director of New Jersey, B. A. Seiple of the Jersey Central Power and Light Co., who is showing much enthusiasm in Bureau work. Many new Bureaus should result from these meetings.

TACOMA MILLWORK CO. TO DISTRIBUTE STARR

TACOMA, Wash.—Tacoma Millwork Supply Co. has been appointed distributor for Starr Co. electric refrigerators, for the Washington and Oregon territory. O. W. Smith, refrigerating engineer, will have charge of the refrigeration department.

KELVINATOR TO USE CREST IN ADVERTISING

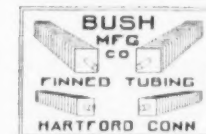
DETROIT—February issues of national magazines will carry the newly designed Kelvinator crest. Kelvinator Corp. advertising officials announce. Reproductions of the crest will be made for display in salesrooms and for window transfers, the corporation plans.

The crest is topped by a helmet in dull gold, symbolizing protection—the protection of health. The shield consists of four parts, one showing a rector, representing science, the second, an iceberg, symbolizing cold, and the other two, lightning bolts, symbolizing electricity.

A small shield superimposed has the hand and grain taken from Lord Kelvin's crest. The colors are blue, dull gold, red, white, and yellowish gold.

CONDENSERS STANDARD SIZES OR TO YOUR SPECIFICATIONS FINNED TUBING

FOR BOTH HIGH AND LOW PRESSURE SYSTEMS



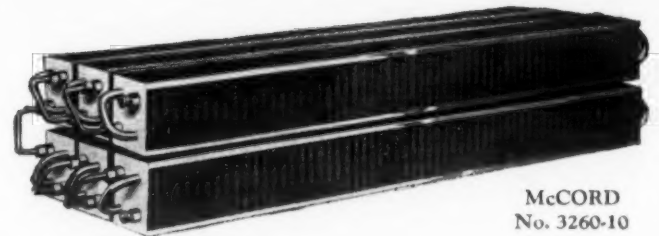
IN COPPER, BRASS ALUMINUM OR STEEL

THE BUSH MFG. CO. HARTFORD, CONN.

W. H. MARK HANNA 6-247 General Motors Bldg. DETROIT, MICH.
REFRIGERATOR APPLIANCES, CHICAGO VAN. D. CLOTHIER, LOS ANGELES

Percentage of Vertical Surface Does NOT Tell All the Story

Why Try to Use the Same Evaporator in Miami as in Minneapolis ?



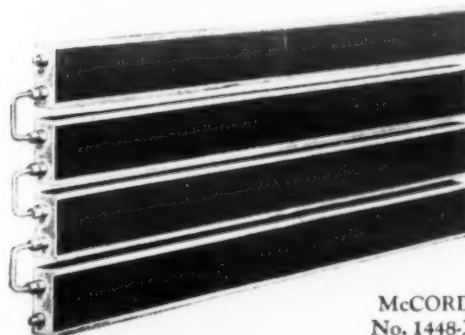
Different Heat Loads Require Different Evaporators as Well as Different Compressors

Suppose you had two refrigerators—same size, same make, same insulation—one in Miami and one in Minneapolis. The Miami box would certainly be subject to greater outside temperature and consequently greater heat loads. Therefore, you compensate by installing a larger compressor.

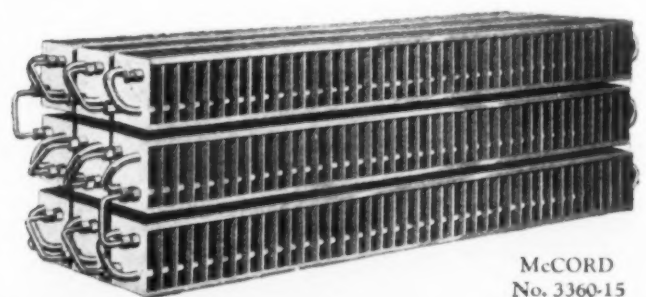
But what about the evaporator? It is subject to a greater heat load, too. The amount of surface of the box is but one consideration in determining the correct evaporator size—outside temperatures (as well as insulation) must also be considered.

McCord Evaporators, because of their unit assembly construction, give you your greatest opportunity of approaching the ideal in meeting surface requirements in any given bunker at various heat loads. The fact that only 36 sizes permit 297 combinations avoids the need for supplying a unit "near enough" because the exact size is not in stock or available.

If you have not received your copy of the McCord Evaporator Catalog, send for it. And on your next job, whether in Duluth or Daytona, use a McCord Copper-Fin Commercial Evaporator.



McCord No. 1448-X



McCord No. 3360-15

REFRIGERATION ACCESSORIES DEPARTMENT OF

MCCORD

RADIATOR & MFG. CO. DETROIT, MICH.

WAY BACK WHEN . .



CARBONATORS
SMALL PUMPS
REFRIGERATORS
OIL BURNERS

1/6 Horse Power Century Type RS Repulsion Start Induction Single Phase 60 Cycle, 1750 R.P.M. Motor. Built in standard horse power ratings from 1/8 to 40 horse power.

In 1914 . . . when refrigerators were first being developed requiring a different motor than was then in common use . . . When manufacturers of carbonators and some types of small pumps were commencing to feel the need of a motor more suited to their requirements . . . When Central Stations were bothered with high starting current . . . Century Electric Company designed its famous M-frame Type RS Repulsion Start Induction Brush-lifting, Single Phase Motor.

It was this motor that played such an important part in developing and stabilizing the electric refrigerator, oil burner and house pump business. It helped popularize their use because its high starting torque and low starting current met every severe service and safety requirement of these and similar hard-to-start apparatus in domestic use.

Today this motor, unchanged in fundamentals, is giving better service than ever . . . Its positive reliability has been amply demonstrated in many hundred thousands of installations in all classes of service in all parts of the world . . . "They Keep a-Running" . . . Ask anybody who KNOWS motors! Century Electric Company, 1806 Pine Street, St. Louis, Mo., U. S. A.

Century MOTORS

For more than 27 years at St. Louis
40 U. S. and Canadian Stock Points and
More Than 75 Outside Thereof

SINGLE PHASE, THREE PHASE AND DIRECT CURRENT MOTORS—MOTOR GENERATOR SETS—ROTARY CONVERTERS—FANS AND VENTILATORS

LITTLE STORIES OF INTERESTING PEOPLE IN THE REFRIGERATION INDUSTRY

THE EXPANSION VALVE

By George F. Taubeneck

LITTLE STORIES OF INTERESTING IDEAS IN THE REFRIGERATION INDUSTRY

Three-year Guarantee

One of the noteworthy developments of the year 1931 in the electric refrigeration industry was the three-year guarantee.

First to make a public announcement of this guarantee was the General Electric refrigeration department, which broke the news at its convention of "Toppers" that henceforth the Monitor Top would carry a three-year guarantee.

A day or two later (both announcements occurred during the first week of March) President E. G. Biechler of the Frigidaire Corp. announced a three-year free service guarantee on all porcelain household Frigidaire models, including both cabinet and machine.

Immediately thereafter General Electric advertising made it clear that both the G. E. machine and cabinet were guaranteed for three years.

By the end of the month all Kelvinator porcelain household models were being sold under a three-year guarantee which covered both the machine and cabinet.

Majestic followed suit, and took advantage of the opportunity to raise the price on all three of its models.

In April Williams Ice-O-Matic joined the three-year guarantee parade, as did Mayflower, on all porcelain models (one year only on lacquer cabinets, corresponding with the Kelvinator policy).

Starr Freeze raised the ante the first of May by announcing a three and one-half-year guarantee covering both cabinet and machine.

Apex and Wayne (now made by Apex) assumed the obligations of three-year guarantees during the latter part of May.

Early in October King Kold refrigerators, manufactured by the Illinois Moulding Co., also adopted the three-year guarantee. * * *

Utility Merchandising

Another important chapter in the history of 1931 is concerned with the fight waged by associations of department stores, hardware dealers, furniture dealers, and others against the merchandising of appliances by public utilities.

Oklahoma and Kansas banned public utility merchandising of appliances. Interesting to note, J. F. Owens, president of the N. E. L. A., lives and does business in Oklahoma.

Similar measures were killed by the legislatures of California, Indiana, Missouri, Nebraska, and Nevada, and were introduced in the legislatures of Illinois, Pennsylvania, Tennessee, Texas, Wisconsin, and Alabama.

To study the situation a joint committee of the N. E. L. A. and the National Retail Dry Goods Association met a few times under the chairmanship of President D. A. Kelly of The Fair department store in Chicago.

Electric refrigeration dealers stood on both sides of the question, depending largely upon the aggressiveness and the price-cutting tendencies—if any—of the utilities with which they may have been competing.

Manufacturers ostensibly kept out of the conflict, although they did all they could to quiet unrest within the ranks of their dealers.

Most of the larger manufacturers list many public utilities among their best outlets.

At the N. E. L. A. convention at Atlantic City in June impassioned speeches were delivered calling the utilities to rise and do battle against government interference.

Electric Refrigeration News, we are proud to note, was first to get and print the news about the struggle. * * *

Room Coolers

Extension of air conditioning principles to homes drew considerable attention from the electric refrigeration industry in the year just past.

Frigidaire made quite a drive on its line of room coolers, as did Copeland, which introduced a new line at a convention of distributors July 29. In August Kelvinator announced a series of cabinet type room coolers for homes and offices.

Publicity was given to Frigidaire room coolers when units originally ordered by Otto H. Kahn were delivered to the sick room of Thomas A. Edison, who manifested keen interest in the installation.

Carrier continued to lead the air conditioning field, but many others entered—notably manufacturers of heating and ventilating apparatus.

The first trains with air conditioning apparatus began regular trips, and systems were installed on steamships, in food serving establishments, offices, dairies, ice cream plants, packing houses, cigar factories, printing plants, textile mills, theatres, and many other places.

Indications are that the field will attain considerable magnitude within the near future.

Many manufacturers of electric refrigeration equipment now are busily at work designing room coolers, and contemplate placing models on the market soon. * * *

Refrigerated Trucks

Another new application of refrigeration which attracted the attention of the electric refrigeration industry in 1931 was that of refrigerated trucks.

Demand for satisfactory mechanically refrigerated trucks arose from ice cream manufacturers and dairies, and from producers of quick-frozen foods. And the demand evoked action in many engineering departments.

At the annual Dairy Industries Exposition held in October at Atlantic City a large number of refrigerated trucks were exhibited. They held the spotlight throughout the show.

Perhaps the most dramatic news of the year in connection with refrigerated trucks was the eight-day transcontinental trip of a large Frigidaire-refrigerated General Motors Truck, belonging to the Southern California Freight Lines, Ltd., which traveled from Los Angeles to New York City with a full cargo of perishable foods.

Kelvinator also supplied interesting news by the introduction of a compensating drive for refrigerating units powered directly from the truck engine.

Trucks refrigerated by solid carbon dioxide grew in numbers, and a few trucks refrigerated by brine cartridges were placed on the market.

The Consolidated Equipment Corp. introduced a truck refrigerated by a new brine principle in which the refrigerating unit works only at night when the truck is in a garage. * * *

Quick-frozen Foods

General Foods continued to expand its distribution of Birdseye Frosted Foods during 1931, establishing almost 200 retail outlets during the year. Most of these were in New England, although some appeared in New York City and along the middle Atlantic seaboard, and one or two in the South.

In the Middle West the leader in the production and distribution of quick-frozen foods again was Swift & Co., which, however, did not expand nearly so greatly as did the Birdseye Packing Co.

Sally Lee Frigid Meats, packed by the Indianapolis Abattoir Co., continued to gain momentum slowly. They are now being sold in Indianapolis and many cities in Indiana.

Armour & Co. began selling quick-frozen meats to institutions, which continue to buy the bulk of all quick-frozen foods sold west of New England.

Southern activities in quick-freezing took a couple of blows on the chin when the National Dairy Products Corp. and Borden suffered rather severe losses on the season's freezing of orange juice.

Tom Huston's quick-frozen peaches, figs, and bananas also received some set-backs, and by midsummer were being sold only in Atlanta.

M. T. Zarotschenzoff, the European inventor of the "Z" brine spray method of quick-freezing, journeyed to America and obtained audiences with many important engineers and packers. His chief object, selling his method and equipment to Armour & Co., did not materialize.

Most important of the new quick-freezing equipment was the Birdseye portable plate freezer, which permits freezing of fruits and vegetables directly at the source of supply.

Engineers also took careful note of the new Hendron quick-freezer, rights for which are controlled by the Booth Fisheries.

Manufacturers of low-temperature display cases, temporarily baffled by the apparent small demand for such equipment, found a new outlet for their products among merchandisers of fancy molded ice cream.

Electric Refrigeration Bureau Activities

Under the sponsorship of the N. E. L. A. a cooperative promotional endeavor, known as the Electric Refrigeration Bureau, carried on various activities throughout the year. Its chief object was to help the industry sell one million household electric refrigerators during 1931.

Most important of these activities was the establishment of local electric refrigeration bureaus in several hundred towns and cities scattered over the United States.

These local bureaus conducted joint exhibits and joint advertising campaigns. There was also a national cooperative advertising campaign.

J. E. Davidson of Omaha, Nebr., was chairman of the executive committee of the bureau.

Dr. George W. Allison of New York

Requiem

Death of "Gus" Mayer in a plane crash New Year's Eve, as reported on the front page of this issue of the News, robs the Valve of a chance to get and tell one of the most interesting personality sketches available in the industry.

Mr. Mayer was an experienced flyer himself, and during the World War was a lieutenant in the United States flying corps.

He was a flight partner of Warde B. Stringham, who is now distributor for General Electric refrigerators in Des Moines, Ia.

Shortly before getting into the plane for his last flight, Mr. Mayer was talking with his friend, Frank Monaco, in the latter's cafe in the Hanna Bldg., Cleveland.

It was a dark and cloudy day, and Mr. Monaco was dubious about the flight "Gus" was about to undertake.

"Yes," said Mr. Mayer, "it doesn't look so good. But I'm not going to lose my nerve. Goodbye, Frank."

spent the major portion of the year out in the field making speeches to put impetus and enthusiasm into the movement.

Later in the year George Brown was appointed permanent secretary of the bureau, with headquarters in New York City.

Other items on the national movement were reported in the weekly ELECTRIC REFRIGERATION NEWS as follows:

"NEW YORK—Morris E. Jacobs of the advertising firm of Bozell & Jacobs, Omaha, has been appointed chairman of the plan committee of the Electric Refrigeration Bureau to succeed A. C. Watt of Commonwealth & Southern." (Sept. 30, 1931.)

"NEW YORK—Announcement of 'The Half Century Contest' and of 'The Employees Purchase Plan for Electric Refrigerators' has been made by the Electric Refrigeration Bureau of the National Electric Light Association in two booklets sent to local bureaus and central stations this week." (Oct. 28, 1931.)

"NEW YORK CITY—Plans were approved here late last week by the executive committee of the Electric Refrigeration Bureau to carry on during 1932 a more comprehensive and thorough series of cooperative selling activities than the bureau has ever before attempted.

"The program, which calls for another million in 1932, embraces an increased advertising appropriation, more frequent issuances of promotional material, and a number of cooperative campaign ideas." (Nov. 4, 1931.)

"NEW YORK—Six prizes, totalling \$600, are being offered by the Electric Refrigeration Bureau for the best holiday window and store interior displays." (Nov. 11, 1931.)

"DAYTON—Details of the 1932 Electric Refrigeration Bureau campaign were worked out at a meeting of the plan committee here, Nov. 10." (Nov. 18, 1931.)

"NEW YORK—Rules for the store display contest to be carried on during the Christmas season by the Electric Refrigeration Bureau, have been changed to permit any utility or other retail sales outlet for any company to compete. The first announcement limited competition to Frigidaire, General Electric, Kelvinator, Norge, and Westinghouse dealers." (Nov. 23, 1931.)

"NEW YORK—Louis Ruthenburg, L. E. Moffatt, E. C. Bennett, and F. M. Cockrell were recently elected members of the executive committee, Electric Refrigeration Bureau. Miss Eloise Davi-

son became a member of the plan committee at the same time." (Nov. 25, 1931.) * * *

Patents and Trade-marks

Among the patent and trade-mark decisions which made news during 1931 were the following (italic dates indicate issue of ELECTRIC REFRIGERATION NEWS in which story appeared):

Jan. 14—Federal Judge A. J. Tuttle's decision holding the Wolf Patent No. 1,337,175 invalid and dismissing Frigidaire's suit against Absopure, was affirmed by U. S. Circuit Court of Appeals in Cincinnati, Jan. 13.

March 25—Without disturbing the validity of Patent No. 1,595,426 owned by the American Patents Development Corp. and used by the Dry Ice Corp. of America as exclusive licensee, on March 9 the Supreme Court decided that the Carbice Corp. was not infringing on the rights of the Dry Ice Corp.

The defendant denied both patent validity and infringement. In the same suit, the Federal Circuit Court of Appeals had held the patent valid, and earlier the Federal Court of eastern New York had dismissed the bill on the ground that infringement had not been shown.

June 5—Acting on the petition of the Carbice Corp. to rule upon the validity of Patent 1,595,426, owned by the American Patent Development Corp., and used by the Dry Ice Corp. of America, the Supreme Court on May 18 held that patent invalid on the ground that the solid carbon dioxide container covered by that patent lacks invention and novelty.

The decision followed a period of litigation beginning in the Eastern New York Federal Court which ruled that the Carbice Corp. was not violating Dry Ice patents.

July 29—Opposition of the Frigidaire Corp. to the registration of trade-mark "Arctic-Aire" by Carter F. Hall, manufacturer of turbines, compressors and pumps as the Arctic-Aire Co., Inc., Baltimore, was passed upon favorably by the commissioner of patents of the U. S. Patent Office.

Permission to register the term "Ice-O-Matic," as a trade-mark for electric refrigerators was denied the Williams Oil-O-Matic Corp., by the U. S. Patent Office.

Sept. 30—Upholding the ruling of the U. S. District Court of Minnesota that refrigerator doors constructed by the Seeger Refrigerator Co. do not infringe patents of the Bohn Refrigerator Co. as claimed in the suit brought by the Bohn organization, Judge Booth of the U. S. Circuit Court of Appeals ruled that the Bohn patents are invalid in view of earlier patent rights granted to Thomas P. Bolger for Seeger, and opined that the Bolger patents are not violated by Bohn door construction as the Seeger counterclaim alleged. * * *

Promotions, Appointments

The following names were news in 1931 by virtue of promotions and appointments to new positions:

Jan. 14—T. K. Quinn has been elected vice president of the General Electric Co., and named chairman of that company's home appliance sales committee. P. B. Zimmerman, formerly sales manager of refrigeration department, succeeds Quinn as manager of refrigeration department. G. J. Chapman named assistant manager, and M. F. Mahony, sales manager, and A. M. Sweeney, production manager.

Jan. 28—Bill Grunow and Herb Young leave Majestic; Vernon Collamore, formerly general sales manager of Atwater Kent, named general sales manager of Grigsby-Grunow; Albert Weiland, formerly of RCA-Victor, at Camden, is the new production manager; D. M. Compton is now executive vice president and treasurer.

W. D. McElhinny announces that Copeland sales organization is now divided into two regions; eastern in charge of Frank T. Williams, and western in charge of Ralph W. Jones.

Feb. 11—C. W. Hadden has been appointed Copeland sales manager, according to W. D. McElhinny, vice president in charge of sales.

June 5—Two new vice presidents, John R. Replogle, in charge of engineering, and Edward Hughes, in charge of manufacturing, are announced by Louis Ruthenburg, president of Copeland Products, Inc. Mr. Replogle has been chief engineer for more than a year; Mr. Hughes is promoted from the position of factory manager.

July 15—R. I. Petrie has been appointed sales manager of the Leonard Refrigerator Co., succeeding August H. Jaeger, who has resigned, according to H. W. Burritt, of Kelvinator Corp. Mr. Petrie has been connected with Kelvinator for the last seven years. His headquarters will be in Detroit.

R. C. Roling has been named pro-

duction manager in charge of plant operations and purchasing of Grigsby-Grunow, to succeed Albert Weiland, who recently resigned. Ray C. Haimbaugh has been appointed chief engineer in charge of refrigeration. Robert M. Arnold is now chief engineer of the radio division, and C. M. Blackburn, chief engineer of the vacuum tube division.

July 29—M. C. Terry has been appointed chief refrigeration engineer of the Westinghouse Electric & Mfg. Co., with headquarters at East Springfield, Mass. He will report to T. S. Perkins, general manager of merchandising engineering.

In the weekly issues of ELECTRIC REFRIGERATION NEWS the following important appointments were announced:

"EVANSVILLE, Ind.—F. E. Sellman, vice president in charge of sales of Electrolux Refrigerator Sales, Inc., has been appointed vice president in charge of sales of Servel Sales, Inc., it has been announced by H. H. Springfield, chairman of the board of Servel Sales, Inc. C. A. Miller, formerly assistant sales manager of Electrolux, has been appointed sales manager of Servel Sales, Inc., succeeding V. E. Vining." (Sept. 30, 1931.)

"DETROIT—Howard E. Blood, president of Norge Corp., has been elected to the executive committee of Borg-Warner Corp., parent company." (Nov. 11, 1931.)

"NEW BRUNSWICK, N. J.—Herbert L. Laube became field sales manager of the Brunswick-Kroeschell Co., of New Brunswick, N. J., a division of Carrier Corp., on Nov. 1. He was formerly export sales manager for Brunswick-Kroeschell and has more recently been associated with Carrier-Brunswick International, Inc." (Nov. 11, 1931.)

"GREENVILLE, Mich.—Coincident with the announcement of a more extensive marketing program for the Gibson electric refrigerator was the appointment last week of three new sales executives of the Gibson Electric Refrigerator Corp., and the addition of a new 3-cu. ft. model to its line. W. R. Marshall has been named sales promotion manager; F. A. Delano is the new general sales manager; and Harry H. Bailey will serve as assistant sales manager." (Nov. 11, 1931.)

"DETROIT—H. A. Lewis, treasurer of the Kelvinator Corp., and in charge of the company's export operations, including foreign subsidiaries, has announced the appointment of E. H. Wilcox as manager of the export division, succeeding R. A. Lundquist, who resigned to devote himself to other work." (Nov. 18, 1931.)

"ROCKFORD, Ill.—Fred R. Erbach has been appointed chief engineer of the General Refrigeration Corp., manufacturer of Lipman automatic refrigerating machines, according to James R. Morash, president. (Nov. 18, 1931.)

"GREENVILLE, Mich.—The Gibson Electric Refrigerator Corp. announces the engagement of Howard G. Seldomridge as Middle West district manager for Gibson products. Chicago will be his headquarters." (Dec. 2, 1931.)

"CHICAGO, Ill.—Earl Hadley is now acting advertising manager, and Floyd Masters acting sales manager of the Grigsby-Grunow Co., following the resignation of Duane Wanamaker and Vernon Collamore, respectively, from those positions, according to officials of the concern which makes Majestic electric refrigerators and radios." (Dec. 2, 1931.)

"CHATTANOOGA, Tenn.—H. L. Bickel has been appointed sales manager of the refrigeration division of the Tennessee Furniture Corp., manufacturer of the Cavalier electric refrigerator, according to an announcement made recently by R. T. Frazier, vice president of the company in charge of the refrigeration division." (Dec. 2, 1931.)

"GREENVILLE, Mich.—George M. Farrin, of Chicago, has been appointed middle eastern district manager for the Gibson Refrigerator Co., according to an announcement made by officials of the company." (Dec. 9, 1931.)

"CLEVELAND—A. A. Uhalt, since 1930 director of dealer operations in the merchandising division of the General Electric refrigeration department, will become manager of the newly created dealer division on Jan. 1, it has been announced by P. B. Zimmerman, manager of the department." (Dec. 9, 1931.)

"DETROIT—Fred G. Hulburd, former promotion manager for the Silent Automatic oil burner, has been appointed to the sales promotion department of the Kelvinator Corp., according to an announcement made by Vance C. Woodcox, sales promotion manager." (Dec. 9, 1931.)

"CHICAGO—Majestic electric refrigerators and radios will henceforth be made, promoted, and sold by separate divisions of the Grigsby-Grunow Co., according to a decision reached here recently by B. J. Grigsby, chairman of the board.

"John F. Ditzell has been appointed sales manager for the refrigerator division. V. E. Vining, formerly sales manager of Servel Sales, Inc., has also

(Concluded on Page 11, Column 3)

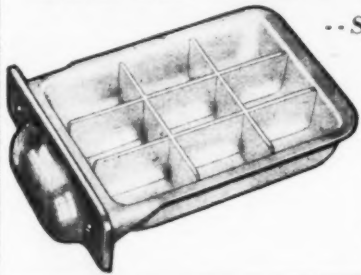
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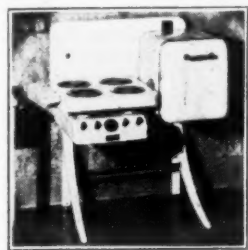
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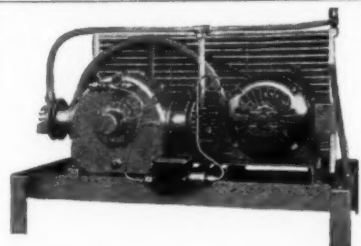
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The Expansion Valve

By GEORGE F. TAUBENECK

(Concluded from Page 10, Column 5)
joined the sales staff of the refrigerator
division." (Dec. 16, 1931).

"CHICAGO—Edward E. Glatt has been chosen general manager in charge of sales for the Illinois Moulding Co., maker of King Kold electric refrigerators. He replaces S. J. Molner, who has resigned to enter business for himself." (Dec. 16, 1931).

"DETROIT—William S. Race, assistant advertising manager of Kelvinator since September, 1930, has been appointed district manager assigned to northern California, effective Jan. 1, according to J. S. Sayre, sales manager.

"The position of assistant advertising manager has been filled by Hayden N. Hill, until now in charge of outdoor advertising. Outdoor advertising will now be under the direction of O. A. Norman." (Dec. 23, 1931).

"CHICAGO—Charles I. Horowitz has been appointed export manager of the Gibson Electric Refrigerator Corp., Greenville, Mich., with headquarters at 201 N. Wells St., here." (Dec. 30, 1931).

"CLEVELAND, Ohio—Francis M. Corliss, an engineer in the product division of the General Electric refrigeration department, will assume duties of ice cream cabinet specialist in charge of sales of all General Electric ice cream cabinets, Jan. 1, it has been announced by Walter E. Landmesser, manager of the commercial division." (Dec. 30, 1931).

Miscellaneous

Significant happenings which did not exactly fall under any of the above classifications are withdrawn from the issues of ELECTRIC REFRIGERATION NEWS as indicated, and appended below:

Feb. 11—Minneapolis-Honeywell acquires Time-O-Stat Controls Corp., to operate it as a division of the main company. Unnecessary duplication of equipment will be avoided by merging the two concerns, officials believe.

Frigidaire will spend more than \$7,000,000 for advertising and sales promotion this year.

G. E. will spend \$6,500,000 on advertising and sales promotion this year, half a million more than last year, W. J. Daily announced.

Feb. 25—Wayne Home Equipment Co., refrigeration department, is purchased in its entirety by Apex Electrical Mfg. Co.

Zerozone Corp. goes into the hands of the receivers—Straus National Bank & Trust Co. of Chicago—with Paul G. Evans as official representative. Distribution of Zerozone refrigerators is continued.

March 11—Rice Products, Inc., goes into receivership. The Detroit factory and offices are vacated and closed. Rice Electric Refrigeration, Inc., of Brooklyn, a former distributor, is now servicing Rice units in that territory and building new units for delivery to other distributors.

The Starr Co. buys a controlling interest in Benedict & Co., Ltd., of Los Angeles. The latter will continue to merchandise its Yukon line, and will distribute Starr Freeze domestic units on the coast.

Grigsby-Grunow buys out Majestic Household Utilities Corp. March 11, share for share.

April 22—The proposed change in stock structure of Copeland Products, Inc., to allow for a new issue of no par value common stock was approved by stockholders, according to Louis Ruthenberg. This change provides for a new issue of 100,000 shares of no par value stock, 52,265 of which will be exchanged for all old issues on the basis of one share of new stock for three of the old A stock, or one of the new for 13 of the old B stock.

Universal Cooler Corp. purchases all the physical assets of the Absopure Refrigeration Corp., and intends to continue the production and sales of the complete Absopure line.

May 20—The Platt Music Co., handling Copeland, Majestic and Servel lines in Los Angeles is selling refrigerators on a meter plan of payment, allowing purchasers to pay for refrigerators at the rate of 25 cents a day.

July 1—John E. Starr, one of the pioneers in the development of ice-making and cold storage systems, and the first president of A.S.R.E., died June 27.

The millionth General Electric refrigerator, gold-plated, is presented to Henry Ford during a nation-wide radio program over the N. B. C. network Gerard Swope made the presentation.

Aug. 12—National Pumps Corp. acquires controlling interest in the Dayton Refrigerating Corp.

Oct. 21—The 54 radio stations which form the basis of the National Broadcasting Company's Red network, and over which the General Electric Company's new million dollar program is being broadcast, will be utilized Friday noon, E.S.T., Oct. 23, when T. K. Quinn, vice president of the General Electric Co., will broadcast a sales message to more than 10,000 General Electric refrigerator salesmen in all parts of the country.

Dec. 9—An advertising and sales promotion program to gain public acceptance for electric cookery will be

launched by General Electric Hotpoint range in January, 1932, according to George A. Hughes, president of Edison General Electric Appliance Co., Inc. Distribution will follow the lines of the General Electric refrigeration set-up.

Dec. 23—Electrochef ranges, manufactured by Electromaster, Inc., are to receive nation-wide distribution during 1932 under a plan which is designed to create a distributorship or a number of distributorships in every state of the Union, according to Gerald Hulett, newly appointed sales promotion manager.

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Electric Refrigeration News

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SPECIAL RATE is paid in advance—Positions Wanted—fifty words or less, one insertion \$2.00, additional words four cents each. Three insertions \$5.00, additional words ten cents each. All other classifications—fifty words or less, one insertion \$3.00, additional words six cents each. Three insertions \$8.00, additional words sixteen cents each.

REPLIES to advertisements with box numbers should be addressed to the box number in care of Electric Refrigeration News, 550 Maccabees Building, Detroit, Mich.

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EQUIPMENT FOR SALE

FOR SALE—Complete stock of Genuine Zerozone Service Parts for all Size Zerozone Machines from 1/6 to 1½-hp. Compressors, Motors, Brine Tanks, Expansion Valves, Trays, etc. Zerozone St. Louis Co., 2317 Tennessee Ave., St. Louis, Mo.

FOR SALE CHEAP—Ten complete commercial Frigidaire jobs, like new, actually run less than six months. Equipment includes 1/3, 1/2, and 1-hp. Frigidaire compressors. Coil models 22X, 17F, 88F, 96F. Will sell coils or compressors separately. Our truck delivers to New York City. Lawton Huffman, Marshalls Creek, Pa.

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